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THE JOURNAL OF CUTANEOUS DISEASES

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Original Communications

SYMPOSIUM ON CANCER

THE ETIOLOGY AND PATHOLOGY OF SKIN CANCER*

FREDERICK GILLETTE HARRIS, M.D.
Professor of Dermatology and Syphilology, Northwestern University Medical School
CHICAGO

Cancer is a subject of absorbing interest, and during the past few years there has been an immense amount of effort exerted to determine its cause.

V. Hansemann, Lubarsch and others have pointed out that there is no sharp line separating the benign from the malignant neoplasms. The frequency with which growths of this sort occur and the ready accessibility of the skin would seem to make this organ especially adapted for the study and experimental investigation of these tumors. However, a rather careful review of the recent literature has shown that, from an experimental standpoint, skin cancer has been almost neglected. There has, on the contrary, been a great amount of work on cancer in general, and a review of that work and its relation to skin cancer is the basis of this paper.

None of the various theories as to the origin of cancer has been able to explain all of the facts. The parasitic theory has been all but abandoned and has recently lost its staunchest advocate by the death of Czerny.

The work of Smith[1] on the crown gall of plants is suggestive, but his Bacillus tumefaciens probably bears the same relation to crown gall, that the bilharzia parasite bears to carcinoma of the bladder in man, or the nematode found by Fegiger[2] bears to carcinoma of the stomach in rats. They all represent forms of chronic irritation.

* Received for publication June 25, 1917.
* Read before the Forty-First Annual Meeting of the American Dermatological Association, Cincinnati, May 24-26, 1917.

Thiersch's theory, of a loss of balance of the tissue, which was modified by Ribbert, serves to account for many phases of the subject. V. Hansemann's theory of anaplasia of the epithelial cells also serves to account for certain facts. Cohnheim's embryonic cell rest theory as a result of recent work seems to be coming into its own again.

The etiologic factors of cancer may be divided into (*a*) internal and (*b*) external.

(*a*) UNDER THE INTERNAL FACTORS we would group race, age, heredity, embryonic rests, metabolic disturbances and connective tissue changes.

(*b*) UNDER THE EXTERNAL FACTORS we would group parasites, traumatism and other forms of chronic irritation.

In the etiology of carcinoma of the skin, the internal factors of carcinoma in general, while operative, are much less evident on account of the greater rôle played by various forms of chronic irritation.

RACE. It is well recognized that the colored race is relatively free from skin cancer. This has been thought to be due to the protective action of the pigment. To be sure, this probably is a factor, but the same comparative freedom is found in all aboriginal races. And, further, this immunity is not confined to the skin but is seen also as regards cancer of the internal organs. V. Hansemann[3] has studied the occurrence of malignant disease in the German tropical colonies and shows the great infrequency of it. I. Levine[4] has reports of only twenty-nine cases of cancer in over 115,000 American Indians. His reports show that it is very rare in Indians compared to whites living in the same localities. Schuffner[5] says that in Sumatra, carcinoma is rare, but warts are common. Renner[6] says that cancer is rare among the aborigines of Sierra Leone, but is increasing among the descendants of freed slaves. He thinks that adopting the European mode of life increases the liability to cancer. After considering the subject of cancer among the colored, Levine[4] says, "the conclusion is forced on one's mind that while every human being may carry within himself the X which may develop into cancer, it is the modern civilization and the conditions created by it that gives rise to the immediate causes which produce the disease."

It is evident that race influences the etiology of cancer in man, and it is interesting in this connection to recall the marked immunity to Jensen's tumor shown by the Berlin mice in contradistinction to those of Copenhagen and England.

AGE. Probably the most constant etiologic factor in carcinoma of the skin, as in carcinoma in general, is old age. This is true of cancer as seen in experimental animals, as well as man. But, paradoxical as

it may seem, transplanted cancer grows best in young, vigorous animals.

There have been various explanations for this predilection of cancer for old age, none of which is satisfactory, and the probability is that more than one factor is operative.

Theilhaber[7] compared the tissues of old and young in man and animals, and found that in old age the tissues resembled scar tissue to a greater or less extent. The older the connective tissue the fewer cells it contained; also the younger the individual the more abundant the blood supply and the vessels had thinner walls and wider lumina. The oposite was true in the aged. He found that in old age the epithelium showed no marked retrogressive changes. Theilhaber[7] says that the intensity of a disposition to cancer is in inverse ratio to the number of cells found in the connective tissue. In addition to these connective tissue changes of old age on which he lays such stress, Theilhaber[8] assumes that another factor, a change in the body fluids, is necessary—the humeral predisposition.

Neumann,[9] in his study of the senile skin, found the principal changes in the connective tissue. There was granular degeneration, hyaline swelling and the tissue was less cellular.

Rössle,[10] in an interesting paper on the influence of age on tumor formation, calls attention to the fact that all tissues do not age simultaneously. A child's epidermis differed but little from that of adults; but the connective tissue of a child is much more cellular, more succulent and poor in intercellular substance, while that of the adults is rich in intercellular substance and poor in cells.

Whatever the reason may be, there is no clinical fact in regard to skin cancer which is so certain as that it is an old age disease; admitting, however, that there are many and remarkable exceptions.

Freund[11] emphasizes the more rapid aging of connective tissue and its loss of restraint on the inherent proliferative powers of epithelium, as an explanation of cancer formation.

Adami[12] has suggested that "possibly the tendency to develop cancer in later life, has some relationship to the reversion and degeneration of gland cells at this period. As the tissues become more exhausted, the more highly differentiated cells tend to become structurally simpler. With the reversion to a simpler type, there may be a greater liability for these cells to assume proliferative powers."

Theilhaber,[8] Lauterborn[13] and others think the atrophy of various endocrine organs, as the spleen, ovaries, testes, bone marrow, etc., which occurs in the latter part of life, is a predisposing factor. There are many observations in the experimental study of the disease which lend weight to the theory and when we realize the marked effect the

secretion of various endocrine organs have on metabolism and growth, we must admit that a more complete knowledge of their functions may go far to solve the question.

In the discussion of Fordyce's[14] paper on this subject, LeCount speaks of the tendency to ascribe the growth of malignant tumors to processes of metabolism, not at present understood but which may eventually be found analogous to those which are concerned with normal growth.

SEX. It is generally held that cancer of the skin occurs with about the same frequency in the two sexes; it is probably somewhat more frequent in men. Certain it is that the frequency varies markedly according to location. This is readily explained by the difference in the habits or customs of the two sexes.

Carcinoma of the lips, or buccal mucosa, is very much more common in men; except in those regions where betel is used, when the difference is not so great.

Borrmann's[15] statistics show that cancer of the cheek, the ear and eye region, forehead and temporal region is distinctly more frequent in men than in women. We believe this is due to the more common occurrence of keratotic lesions in these locations in men. Again cancer of the extremities is much more frequent in men than in women. This might be explained as the result of greater liability to traumatism and ulcers, especially syphilitic.

On the other hand, cancer of the scalp is much more frequent in women.

The writer has been unable to find any work dealing with the relative frequency of the various types of cancer in the different sexes, but he ventures the opinion that the spino-cell type is more common in men than in women.

METABOLIC DISTURBANCES. There seems to be a growing tendency to seek for the cause of cancer in a disturbance of the normal metabolism, either general or local. It is a fact that various deviations from the normal are found in the metabolism of cancer patients.

Gwerder-Pedoja[16] says the origin of cancer depends on the condition of the body fluids, and less on the vital peculiarities of the body cells.

Blumenthal[17] speaks of the chemical metaplasia or anaplasia of the cancer cell as the result of metabolic disturbances.

Wyss[18] thinks that these disturbances, if present, must be local, for otherwise multiple carcinoma would be much more common. This, of course, is not necessarily so, for we can very well conceive that only certain cells, be they normal or the site of some slight change, might be affected by a general metabolic disturbance. Lubarsch[19] says it is

easily possible that there are specific or nonspecific substances, which can activate the chemistry of cell division.

There are many clinical and experimental observations to substantiate this hypothesis. The marked influence of a persistent corpus luteum on the production of chorioepithelioma is pointed out by Pick.[20] There also exists a close connection between the wig-like tumors found in the deer family and disturbances of the testicles, to which Lauterborn[13] has called attention; and he further noted the fact that the bulk of tumors in man occur during the involution period of the sexual organs, between 40 and 50 years in women and between 60 and 70 years in men.

There are some experiments in animal cancer which tend to throw a little doubt on such an intimate relationship.

Goldzieher and Rosenthal,[21] in tumor mice, saw no effect of treatment with ovary, testicle, adrenal or thyroid extracts, nor did tumors grow oftener in castrated mice.

Theilhaber[7] has repeatedly called attention to the fact that for the majority of tumors, something, as a change in the tissue fluids, is necessary in addition to the local conditions. He thinks that a deficient action of the spleen, thymus and other lymphatic structures is responsible. In experimental cancer it has been found that removal of the spleen increases the percentage of successful grafts and increases the growth.

Haslund, Borrell and Bashford[22] found that pregnant animals were more resistant to inoculation and the tumors grew slower than in nonpregnant controls. Robertson and Burnett[23] found that the injection of pituitary extract into tumors of rats, caused a marked increase in growth.

There are some very suggestive findings in regard to cholesterol. Ludin[24] found the cholesterol values increased in malignancy. Doree, Ellis and Gardner[25] have shown that the cholesterol content of egg yolk decreases proportionately as the chick grows. Aschoff,[26] Autenrieth and Funk[27] have shown that the blood cholesterol is increased in pregnancy. Robertson and Burnett[28] believe that cholesterol is an important factor in the incidence of carcinoma of rats. They showed that intravenous injection of cholesterol sodium oleate emulsion caused grafted tumors to double in size.

Wacker[29] found the cholesterol content of the mesenteric and subcutaneous fat was 66 per cent. greater in carcinoma cases than in normal individuals. He also found an increased amount in the fat of aged persons.

Robertson and Burnett[28] think that the increased cholesterol is the cause of the incidence of carcinoma in old age.

There have been various other metabolic deviations noted, the significance of which is not understood at present; and yet they must be considered in connection with the etiology and pathology of cancer.

F. Müller,[30] Von Noorden[31] and A. Schmidt[31] showed that in carcinoma cases there is a specific disturbance of protein metabolism. Saxl[32] showed that the entire protein metabolism is increased. Intermediate metabolism is disturbed with lessened urea excretion. Ammonia formation is increased and there is a lessened acidosis of the blood.

Menton[33] has shown a greatly increased alkalinity of the blood in cancer cases.

Probably the work that has the most direct bearing on the subject is that of Freund and Kaminer[34] who showed that the serum of carcinoma cases did not destroy carcinoma cells while normal serum did. They found that the destroying substance was an ether soluble, nitrogen free acid. In carcinoma serum they found a nucleoglobulin which paralyzes the action of normal serum and prevents the destruction of carcinoma cells. After extirpation of the carcinoma, this protecting substance remains in the blood. They believe that the presence of this protecting substance is the cause of the predisposition to carcinoma. They found that extracts of areas predisposed to carcinoma, as leg ulcer, stomach ulcer and endometritis did not destroy carcinoma cells, but extracts of similar normal tissues did. In a case of skin carcinoma, extracts of the skin did not destroy carcinoma cells. Extracts of the other organs did. They think that in chronic inflammation the protective fatty acid is used up and thus makes the area one of lower resistance.

Freund, Kaminer and Neuberg[35] showed that normal blood serum contained substances which would precipitate, agglutinate and dissolve carcinoma cells. These substances were not present in the serum of carcinoma patients. Braunstein,[36] Lewin and Meidner[37] have shown that the spleen contains a large amount of these protective bodies.

Kraus[38] has corroborated the work of Freund and Kaminer, but thinks the reaction is due to the metabolic products of the cancer cell, which are present in the serum. Rosenthal,[39] by means of the reaction of Freund and Kaminer, has shown the similarity between carcinoma and fetal cells.

Von Leyden and Bergell[40] showed that the normal liver contains a ferment which could dissolve carcinoma cells. A carcinomatous liver, on the other hand, did not contain this ferment.

It has long been held that the cancer cell was a parasite, a foreign body, and at the risk of being tiresome, we have detailed a few of the observations tending to show that in carcinoma there is a varied and

profound disturbance in the general and local metabolism. It remains for the future to separate cause from effect. However, there can be no doubt that the cancer cell, while it varies more or less morphologically from its antecedent normal cell, biochemically the difference is much greater.

A difference which is of practical significance is that of the resistance of the cancer cell to cold. Jensen[41] showed that a temperature of —12 to — 18 C. did not kill. Ehrlich[42] obtained growths after 30 C. for forty-eight hours, also, cells kept at 8 to — 10 C. for two years were capable of growth.

This would tend to substantiate Pusey's and Pollitzer's advice against the use of carbon dioxid snow as a method of treatment of cancer.

At body temperature the cancer cells are destroyed in twenty-four hours.

Embryonic Rests. It is generally admitted that Cohnheim's theory serves to account for a certain number of tumors. Still it does not explain why these latent cells suddenly start to grow. That is a question that the biochemist will have to answer. After the tumor has started, however, it is the histomorphologist who will have to decide whether the growth originates from an adult normally placed cell or from a fetal undifferentiated cell.

As far as the origin of tumors of the skin is concerned, this would seem to be preeminently a question for the dermatologist. He, especially, is the person who is in a position to see the growth in its earliest stages, and it is only when the growth is seen in this stage that the question can be decided. It is fair to assume that what is true of cancer of the skin, probably holds good for tumors in general.

Borrmann,[43] in his excellent article on the subject of skin cancer, comes to the conclusion that all cutaneous cancers originate in embryonal rests. While I find it is impossible to subscribe to all of Borrmann's conclusions, his views on the embryonal rest origin of the so-called basal cell carcinoma, seem to me to best explain various clinical and histopathologic phases of these tumors.

Heredity. The influence of heredity in the production of carcinoma has long been recognized and the extent of its influence studied and debated.

In recent years the question has been the subject of intensive investigation, the results of which would seem to be very convincing.

Bashford and Murray[44] crossed tumor mice with the tumor free offspring of cancer mice and obtained spontaneous tumors in 75 to 90 per cent. Tyzzer[44] substantiated these experiments. Levin and Settinfield[44] crossed tumor resistant male and female rats and found

that the offspring were markedly resistant to inoculation with Ehrlich's rat sarcoma. Loeb and Lathrop,[44] in animals raised under the same conditions, found the percentage of breast cancers differed according to the ancestry.

It remained, however, for Maud Slye,[45] as a result of her prolonged and painstaking selective breeding experiments, to show that the tendency to and incidence of spontaneous tumors in mice followed Mendel's law, and could be bred in and out of a strain at will.

Since this work of Slye's was so carefully done and her results so remarkable, it might be well to give some of her conclusions. She says: "What seems to be transmitted in cancer is the potentiality of the germ plasm to produce an individual whose tissues shall proliferate in the lawless fashion of the neoplasm, under a given provocation." She says further, and this is especially interesting to the dermatologist: "All my observations in this laboratory tend to show that the provocation is over-irritation at the point where the cancer occurs."

How are we to correlate these findings with the various etiologic factors which we have previously considered? There are several interesting hypotheses which one could imagine. One could suppose, for instance, that the tendency to a metabolic disturbance is inherited and there are not a few examples of such in medicine; one thinks immediately of hemophilia, gout, etc. In dermatology we have as example, xeroderma pigmentosum.

Bashford[46] says, however, that experiments have shown that the tendency to cancer is not due to constitutional modification throughout the body, because mice with an hereditary taint do not offer a more suitable soil than nontainted mice. Their experiments point to a localized tissue susceptibility rather than to a constitutional liability to the disease.

Again, one could suppose that the thing that was inherited was a tendency to the development of fetal inclusions. Of course, it is well recognized that various malformations are inheritable, possibly according to the laws of Mendel. Here again dermatology furnishes some brilliant examples, such as adenoma sebaceum, keratosis palmaris, ichthyosis, acanthoma adenoides cysticum, lymphangioma circumscriptum, xanthoma, fibroma molluscum and the so-called endothelioma capitis which we believe to be a form of basal cell epithelioma.

It is thus seen that in man heredity is a marked etiologic factor in the production of new growths of the skin of various types. It remains to determine the extent of its influence in cancer. This is, of course, a difficult problem and especially so, in regard to the cases as seen by the dermatologist. The growth being often slight and reacting so well to the modern therapeutic measures, that the descendants are apt to be ignorant of its occurrence in the antecedents.

So much for the internal factors responsible for the production of skin cancer. It must be admitted that our knowledge of the part they play is fragmentary and indefinite. That they are the really specific element and will eventually be discovered, we have no doubt. Probably they will be few in number.

External Factors. One can group the external factors under chronic irritations of all kinds. To be sure, these are important and definite, but they are so varied that it is difficult to conceive that they have any specific action. Probably all they do is to determine the site of the cancer. Although, until we know more of the internal physiology and chemistry of the epithelial cell, we shall have to admit that these functions may be subject to change in the direction of malignancy, by these external factors alone.

Probably the most evident of these external factors in the production of skin cancer is actinic energy of various forms. It has been said that the first experimental epithelioma was the roentgen-ray cancer. This being so, one would naturally suppose that a study of the effects produced on the skin by roentgen rays might furnish a solution of the cancer problem. Such, however, has not been the case. The changes found by various observers have differed not a little, a fact easily explained by the varying quality and quantity of the rays used.

Dalous and Lassere,[47] in their study, found the deeper layers of the epidermis most affected. The basal layer was less dense and in part destroyed. The rete and horny layers were only slightly affected. Darier,[48] Scholz[48] and others found the epithelial and connective tissue affected more than the blood vessels. Wyss[49] found the principal change in the blood vessels with proliferation of the endothedium and obliteration of many vessels. He thinks roentgen-ray carcinoma, as well as carcinoma in general, is due to vascular changes resulting in deficient nutrition of the epithelial cells. Lindenborn[50] found the principal change in the precapillary vessels. Schumann,[51] Pels-Leusden[52] and Coenen[53] found the vessels normal.

Wolbach[54] found the most conspicuous and constant changes in the corium. These consisted in a rarefaction just beneath the epidermis. This rarefaction he thinks is due to imperfect repair of degenerated connective tissue. He always found hypertrophy of the epidermis with here and there keratosis and epithelial downgrowths; these occurred especially over the areas of degeneration in the corium. He says that in nearly every case the downgrowth seemed to be due to a disappearance of the connective tissue. There was atrophy or absence of the appendages of the skin. In no case was there evidence of proliferation of these structures.

White[55] made a most careful study of the subject and examined the skin in various stages; he found an absence of the papillae and marked vascular changes. The changes in the epithelium were many and varied. He says, "one is struck by the manifold varieties of the pathological structures, almost every known phase of epidermic deviation has been encountered."

Rountree[56] also found an absence of the papillary layer, with dilatation of the superficial vessels and thickening of the deeper ones. He noticed that the epithelial cells became keratinized sooner than normal.

Weidenfeld and Specht[57] noticed that the roentgen-ray skin enjoyed a marked immunity to infection, and they think that the rays awakened a slumbering function of the connective tissue cells by which they destroyed bacteria and by which they favored the growth of epithelium.

Coenen[53] says roentgen-ray carcinoma is due to direct injury to the epithelium which is chronically irritated.

It was early noticed that roentgen-ray skin resembled the senile skin. The histologic changes previously detailed show the reason for the resemblance. They do not, however, explain the cause of the carcinoma. Whether this is to be sought in the connective tissue changes as Ribbert and others believe or whether, as is more probable, the rays cause a change in the biologic character of the epithelial cell, are questions for the future to answer.

It is important, in this connection, to call attention to the fact that carcinoma is not the only type of malignant growth seen following roentgen-ray exposures. Pels-Leusden,[58] Riehl,[59] and Perthes[60] have each reported sarcoma following roentgen-ray exposures. It is also interesting to note that all of these carcinomas belong to the spinocellular type, and this in spite of the fact that a great many have occurred on the face, a region in which the basal cell type is most common.

Presumably radium causes changes in the skin similar to those produced by roentgen rays. It has been asserted that there is no danger of radium causing epithelioma, and we have been unable to find a report of such a case. However, it is well to note that Rethi[61] saw a papilloma of the tongue become malignant after treatment with radium. It will probably not be a great while before radium cancer will take its place alongside of that produced by the roentgen ray.

LIGHT RAYS. That the ultraviolet rays have an etiologic rôle in the production of carcinoma of the skin, has long been recognized. The reason for this is not known. Possibly the action of these rays is similar to that of the roentgen rays. On the other hand, it is known that the rays are capable of causing circumscribed, chronic inflammatory conditions of the skin which often eventuate in carcinoma.

Dubreuilh[62] and Hyde,[63] especially, have emphasized the significance of sunlight in the production of these conditions and carcinoma. The most frequent of these precarcinomatous conditions is the so-called senile keratosis. Montgomery[64] has recently shown the marked influence of sunlight in the production of these lesions. They will be taken up more in detail later.

It is conceded that in xeroderma pigmentosum the ultraviolet rays have a marked effect in causing the malignant changes, and yet the occurrence of these changes on the covered parts of the body, and the fact that in this disease, while carcinoma is far and away the most frequent tumor, sarcoma and fibroma have also been reported, would seem to point to these rays as being an exciting cause only; the important factor being some condition of the tissues or fluids of the body by which the cells easily become malignant. As v. Hansemann[65] puts it, in this disease there is a tendency to anaplasia of the epithelial cells.

Mechanical Trauma. The influence of trauma on the production of carcinoma, while well recognized, is difficult to explain. Ribbert would have us believe that the mechanical displacement of epithelial cells from their usual environment, with the accompanying inflammatory changes in the connective tissue accounts for the malignant change.

It has been shown repeatedly that experimental implantation of adult or fetal epithelium into normal or inflamed connective tissue does not produce carcinoma.

Certain it is that carcinoma may originate from single and apparently slight or more often from recurrent traumatism. This is the usual history in pigmented nevocarcinoma. The reason for the onset of malignancy has not been determined.

We now have to consider various dermatological conditions which are frequently followed by or develop into carcinoma. They appeal especially to the dermatologist because they represent a large majority of the cases of carcinoma coming under his observation. Some or all of these conditions have been carefully studied by Hartzell,[66] Fordyce,[67] Engman,[68] Schamberg[69] and others.

The most common of these is the so-called senile or seborrheic keratosis. The pathogenesis of this affection has not been very clear. Sutton,[70] however, has clarified the matter somewhat by drawing a distinction between the two varieties, the keratotic and nevoid. The nevoid variety occurs most frequently on the trunk and much less often develops carcinoma.

The keratoid or verrucous type occurs principally on the face and hands, and since they probably form the largest class of precancerous lesions seen by the dermatologist, a more detailed consideration of them might be profitable.

The histopathology has been studied by Hartzell,[66] Fordyce,[71] Waelsh,[72] Poor,[73] Pollitzer,[74] Unna[75] and others. The findings of the various authors differ somewhat, due to the fact that they have studied lesions of different ages. Unna and Pollitzer did not distinguish clearly between the several varieties, so their findings vary greatly from those of later observers.

Hartzell's[66] description represents very well the conditions found by the different authorities. He found a marked increase in the thickening of the corneum, the cells of which retain their nuclei. The greatest thickening is about the mouths of the hair and sweat follicles. The rete changes are varied; in the early lesions there is a slight acanthosis, although there is always evidence of proliferation. In the older lesions are seen all degrees of thickening, up to actual invasion of the corium. The corium showed few changes. The sebaceous glands were normal. The sweat glands, however, showed changes in every case. The changes in the coil glands were so marked and so constant that Hartzell thinks they play a very important rôle in the disease. Handford,[76] Jarisch,[77] Dubreuilh[78] and others have noted the marked elongation of the rete pegs.

Pollitzer[74] found a very marked fat infiltration around the individual cells of the epidermis and in the upper part of the papillary layer. Neither Dubreuilh[78] nor Waelsh[72] could confirm this. Cedercreutz,[79] by means of scarlet red, substantiated all of Pollitzer's findings. Undoubtedly, the fat content varies greatly — a clinical manifestation which has led to the use of the terms senile and seborrheic.

The etiology of these keratotic lesions is still a matter for investigation. Although they are much more common in the aged, they occur often as early as the second decade. The one factor which seems to play an important rôle is light. Bellini[80] examined 100 old people from the country and found that 42 per cent. had these lesions compared to 13 per cent. in the old persons living in town. Dubreuilh[81] has repeatedly called attention to the significance of exposure to light. In 162 cases of senile keratosis he found 101 were habitually exposed to sun and wind, while 61 had a sedentary occupation. Montgomery[64] has recently reported a very instructive case in this connection.

Another important factor in the production of these lesions is seborrhea. Most of the investigators have emphasized the hyperkeratosis about the mouth of the sebaceous and sweat follicles. Handford[76] says the removable crust consists of fatty detritus and epithelial cells. The possible significance of this seborrheal character will be pointed out later.

Grosz and Volk,[82] in some interesting experiments, have shown that various bacterial products are capable of making the skin locally and

generally more sensitive to the ultraviolet rays. A seborrheic keratosis would seem to furnish a good habitat for various bacteria whose products might sensitize the area. The readiness with which these lesions respond to treatment might suggest some local etiology. In this connection we might recall that Borrell[83] in twelve cases of facial carcinoma found the dermodex in the sebaceous follicles. Some of the authors speak of these keratotic lesions as giving rise to rodent ulcer. Judging from the histopathologic findings we would expect a spino-cell growth and my experience has borne this out. These tumors are of a relatively benign type and their course simulates that of rodent ulcer.

It would be an interesting point to determine whether the nevoid type of seborrheic keratosis does not more often give rise to basal cell, and the keratoid variety to spino-cell carcinoma.

Dubreuilh[62] found in 105 cases of rodent ulcer that only 35 were subject to exposure, and the other 70 were not so exposed.

It would not be proper to leave this question without referring to Montgomery's[84] observation of the connection between seborrhea of the lower lip and epithelioma, which we feel has not received the attention it deserves. Montgomery does not venture an opinion as to why the lower lip is predisposed to this disease.

Sutton[85] reports six cases affecting the lower lip and one of the upper. He thinks the important factor is the lack of care of the teeth. It is not apparent to the writer just how conditions in the mouth would affect one lip so much more than the other. The lower lip is undoubtedly more exposed to the light than the upper one, and since light is known to play such an important rôle in the production of seborrheic keratosis and carcinoma, might not the greater exposure of the lower lip account for the greater frequency of these diseases on the lower than on the upper lip?

To account for the greater frequency in men than in women we shall have to assume a summation of irritation, tobacco, light, seborrhea, etc.

Arsenical Cancer. The use of arsenic internally over a prolonged period of time is often followed by the formation of keratotic lesions, especially on the palms and soles. These occasionally develop into carcinoma. That this is not frequent is shown by the reports of Wile,[86] and Mutt and Beattie, and Smith.[87] The latter observers reported thirty-one cases from the literature, all but five of which occurred on the extremities or the scrotum. In one-half of the cases there were multiple lesions. The upper extremity was affected in two-thirds of the cases, the lower in one-quarter. In only one case was the face affected, which is remarkable when we consider the frequency with

which other hyperkeratotic lesions occur in this region. The growth is always of the spino-cell type, although Weidenfeld[88] has reported a case having also a basal cell growth over the right clavicle.

It has long been known that arsenic has a special affinity for the skin. It has been demonstrated in the hair and epidermis. Erasmus Wilson pointed out that the keratoses began about the sweat follicles. Possibly the drug is eliminated by the sweat glands thus accounting for the regional occurrence of the carcinoma.

LUPUS CARCINOMA. While this is an uncommon occurrence in the course of lupus vulgaris, it occurs frequently enough to have occasioned a great deal of discussion as to its pathogenesis. Sequeira[89] says it occurs in 2 per cent. of lupus cases. In 964 cases of the disease in the London Hospital he found 2.87 per cent. were complicated by carcinoma. Bargues[90] reports six cases and says it occurs in 3 per cent. of the lupus cases. Ashihara[91] collected 125 from the literature and since then Silberstein[92] was able to collect 116 additional cases.

Why should carcinoma be so frequent in lupus? In five of seven cases of lupus examined, Miyhara[93] found atypical epithelial proliferation and he thinks this predisposes to malignancy. We seldom see in ordinary lupus the riotous atypical epithelial proliferation that is so characteristic of blastomycosis, and yet we have only seen one such case that had become carcinomatous, and Bloodgood[94] has reported one. It might well be that the much longer duration of lupus and deeper scar formation would account for the greater tendency to carcinoma. In all of Sequeira's cases the lupus was over twenty years old. Ashihara found the average was thirty years. Silberstein found it twenty-nine years.

Mendes da Costa,[95] Bargues,[90] Walker[96] and others believed the use of roentgen ray in the treatment favors the development of carcinoma. Spiegler[97] says that the number of cases has increased since the introduction of the roentgen ray. Coenen[98] says roentgen-rayed lupus cases represent more than one-half of the cases of roentgen-ray carcinoma.

There has been a great deal of discussion as to whether the carcinoma originates in lupus or in scar tissue. Kembachief[99] and Bidault[100] hold that it only develops in scar tissue. Eckerman,[101] combining the statistics of Bayhas,[102] Nithack,[103] Steinhauser[104] and Ashihara shows that in 70 per cent. of the cases the carcinoma was supposed to start in lupus tissue. This would seem to be a difficult question to decide.

Differing from lupus itself, lupus carcinoma is more frequent in men than in women, and it is located on the face more frequently than is pure lupus. In Silberstein's[92] series of 111 cases there were eighteen in which multiple lesions had become malignant.

It is probable that there are several factors which operate to cause the development of carcinoma in lupus vulgaris. They are chronic ulceration, old age, roentgen rays and light rays. As one would expect, the growth is almost always of the spino-cell type.

Lupus erythematosus is very seldom associated with carcinoma although its very frequent location on the carcinomatous area of the face and its long course would lead one to expect a more frequent association. Cases have been reported by Pringle,[105] Reismeyer,[106] Dyer,[107] Stopford Taylor,[108] Wyss[109] and others.

Cicatrix Carcinoma. Since Marjolin[110] first called attention to the occurrence of carcinoma in scar tissues, this origin has become recognized as one of the frequent causes of carcinoma. Aside from lupus, carcinoma in scar tissue is uncommon about the face; this is probably due to the fact that ulcerated conditions about the face usually heal readily.

Theilhaber[111] has called attention to the infrequency with which carcinoma is found at various sites of scar formation such as the umbilicus, the hymen, and after circumcision. The important factor in cicatrix carcinoma would seem to be that the original lesion be of long duration.

It might be well to take up here the question of carcinoma developing in ulcers of various kinds, no one of which seems to be especially predisposed to malignant change, and the important factor is probably the chronicity and the instability of the resulting scar.

Chemical Irritation. One of the most interesting forms of carcinoma is that following the local effect of certain chemical substances such as soot, tar, paraffin, analin, etc. The excellent papers of Schamberg[112] and B. F. Davis[113] have covered the subject very completely.

Since Fisher's[114] observation that scarlet red oil would cause atypical epithelial proliferation simulating epithelioma, epithelial proliferations as the result of chemical irritation have been studied rather extensively. Because it is possible that these experiments may have some bearing on cutaneous carcinoma, I believe it worth while to consider some of these observations.

Fisher's findings have been substantiated by Stoeber,[115] Stahr,[116] Jores,[117] Griescher,[118] Sachs[119] and many others. Most of the observers believe the growths start from the hair follicles. Mori[120] has failed to get a proliferation in the comb of roosters, which he thinks is due to the absence of hair in this organ and hence proves that the proliferation seen in animals originates from these structures. Ichio Haga[121] denies this, for he obtained marked proliferation in the tongue and stomach.

The illustrations of the various authors show epithelial proliferation which simulated squamous cell epithelioma very closely. None of

these proliferations possessed the property of unlimited growth nor were the various transplantation experiments successful.

It has been shown that many substances beside various anilin dyes also cause this proliferation. Wacker and Schmincke[122] showed that all the substances which were capable of causing this epithelial downgrowth were lipoid soluble. They found that rancid oil, oleic acid, skatol and various albuminoid decomposition products caused marked proliferation.

It is possible that these observations of Wacker and Schmincke may have a direct bearing on the cause of the epithelial proliferation of seborrheic keratoses. Might not the fat in these areas be decomposed by ultraviolet rays, or by the bacteria in the crusts and result in products which stimulate the epithelium to proliferate? It is well recognized that seborrheic keratoses are more common in the uncleanly. The keratoses observed on the dorsal surfaces of the hands are much less oily and they are also less apt to become malignant.

Then again might not the cholesterol which is present in the sebum stimulate proliferation? This is a property which this substance is known to possess. One could explain the tar and paraffin carcinoma as a result of the plugging of the sebaceous follicles with decomposition of the retained secretion.

There are various other dermatological conditions which occasionally eventuate in carcinoma.

Cutaneous horns and warts and other forms of benign epithelial proliferation frequently become carcinomatous, often as the result of the chronic irritation of repeated trauma.

Patches of psoriasis very infrequently become carcinomatous. Hartzell[123] has collected ten such cases. The fact that the carcinoma in 50 per cent of the cases occurred rather earlier than is usual would tend to confirm Hartzell's suggestion that the malignant change is the result of arsenical treatment.

Epithelioma has been reported following lichen planus, and keratosis follicularis. This latter observation of Wende[124] remains a curiosity. The disease described by Bowen[125] and later by Darier[126] we have been unable to classify to our complete satisfaction. I believe, however, that Heimann's[127] point is well taken when he objects to the name of precancerous dermatosis given it by Bowen.

That xeroderma pigmentosum practically always eventuates in carcinoma is so well recognized and so little is known of the pathogenesis of the disease that a detailed consideration of the subject can be omitted at this time.

The various dermatological conditions considered in the foregoing are often spoken of as precancerous dermatoses. Heinmann, in a very

able discussion of the subject, believes the use of the term is unjustifiable. Certainly when we consider these dermatoses we see that the only thing they have in common is a period of chronic irritation with prolonged epithelial proliferation, accompanied by varying grades of inflammatory reaction in the corium.

PATHOLOGY

The pathology of cutaneous carcinoma is somewhat better understood than is the etiology, and yet there are many phases of the subject over which there is considerable controversy.

(1) The question of the point of origin: Does it originate from the rete, basal layer, the various appendages, or from embryonic epithelial rests?

(2) Does the point of origin determine the structure or is this dependent on other factors as well?

(3) What influence have the connective and vascular tissues on the structure of the growth?

(4) Does the etiology differ according to the point of origin?

(5) What influence have these various factors on the clinical appearance and course of the disease?

We shall have to admit that some of these questions have received no consideration, and on none of them is there unanimity of opinion, and yet the correct solution of some must necessarily precede the establishment of a proper classification of these neoplasms.

The subject of the pathology of these growths had reached a stage of somnolence, in which they were considered to belong to one of two classes, either the endotheliomas or the squamous cell carcinomas, the latter supposedly arising from any of the epithelial structures of the skin. Then Krompecher,[128] by the publication of his epoch-making researches, started a lively discussion which resulted in the abandonment of the term endothelioma and the substitution of the term basal cell carcinoma.

Krompecher's view received general acceptance and a rather sharp line was drawn between the types, both as to their histopathology and possible place of origin.

It must be conceded that epithelioma may start from the epidermis or any of its appendages. It seems, however, that the sebaceous glands are probably the least likely to become malignant.

There are various benign growths which arise in these structures or their "Anlagen." Such for instance are, adenoma sebaceum, sebaceous nevi, presenile sebaceous hypertrophy and rhinophyma. The first two are undoubtedly nevi, the last two are probably examples of

the post-fetal development of sebaceous gland tissue. That such metaplasia of epithelial cells can occur has been shown by Ribbert[129] and more recently by Kyrle.[130]

It would seem that the fatty metamorphosis which the sebaceous gland cell undergoes tends to prevent it from becoming malignant. Reitmann[131] in his article on sebaceous gland tumors says that true carcinoma originating in a sebaceous gland may occur, but that such an undoubted case has not been described.

The sweat follicles have always been recognized as a probable point of origin for epithelioma, especially of the basal cell type. Those growths in which the epithelial cells occur in the form of cords, often with a central lumen, the so-called cylindroma, have usually been assumed to have originated in these structures. This is a questionable assumption and Ricker and Schwalbe[132] in their extensive monograph, make the presence of a hyaline basement membrane the criterion which determines the sweat gland origin.

Fordyce,[133] who has made a special study of epithelioma, says that in the great majority of cases cutaneous carcinoma takes its origin from the epidermis covering the sheath of the hair follicle. Mallory[134] says that basal cell carcinoma arises from the hair matrix. Kyrle[135] describes a case which he thinks proves that basal cell carcinoma can originate from a hair follicle. Borrmann[136] says that he has never seen carcinomatous change in the hair follicle and he does not believe it occurs.

Thus it is seen, that as far as the appendages are concerned there is a marked difference of opinion as to whether they do give rise to carcinoma. And yet, *a priori,* we must concede that they can. We can recall other epithelial structures such as the liver and kidney in which primary carcinoma is distinctly unusual.

The great source of squamous cell carcinoma would seem to be the surface epithelium. In fact, as Hartzell[66] has said, in senile keratoses one sees all degrees of epithelial proliferation up to frank epithelioma. We doubt whether any one would undertake to defend the position that roentgen-ray carcinoma, lupus carcinoma, or that arising in scars, originates anywhere except in the surface epithelium.

Just what part of the surface epithelium becomes carcinomatous is a question. Krompecher thought it originated in rete cells, one or two layers above the germinal layer. v. Hansemann and Ribbert did not think so. Borrmann says that squamous cell carcinoma starts in isolated cell complexes of embryonic origin, located inside the surface epithelium, which for years have lain dormant until stimulated to grow by some influence.

We see no reason why a squamous cell epithelioma should not develop from either the germinal layer or rete cells a few layers above. Certainly one would expect that if a basal cell became malignant its descendants would undergo the usual metamorphosis. In some inflammatory conditions as well as benign growths, we see enormous epithelial proliferation having many of the characteristics which constitute malignancy and in which the usual metamorphosis occurs. Again in these same and other conditions, we see rete cells undergoing rapid proliferation. It seems to us that it could very well be, that squamous cell carcinoma might have two methods of origin; first, malignant change in normally placed epithelium as a result of the various factors considered in the first part of this paper, and second, malignant change in embryonic rests.

Basal Cell Carcinoma. Krompecher[128] held that this type of growth originated from the basal layer of the epidermis or its appendages. Stated briefly, his reasons were that the cells of these growths in their size, shape and staining quality resembled those of the germinal layer. Also in two-thirds of his cases, he was able to demonstrate a connection in the shape of a bridge or cord of cells with the surface epithelium.

Borrmann,[136] in an extensive and careful study of a large series of early carcinomas by means of serial sections, showed that the so-called basal cell carcinoma began below, and in many cases had no connection with, the basal layer. He also showed that when the connection did occur it was due to secondary fusion. He makes the important point that the oldest part of the growth is the largest, the youngest part is the smallest. Therefore, when we can find a mass of cells with a pointed extension toward the epidermis this extension is of more recent growth than is the larger mass.

The question whether cancer originates directly from the normal structures amid which it arises is important, and as Rous[137] says, is one of the most debated in pathology. He showed experimentally that apparent transitions occurred between inoculated adenocarcinoma and the epidermis. Liebert[138] also warns of the care necessary in judging of the union of tumor epithelium with that of the surface. He says secondary union with the surface epithelium is much more common than is thought; especially is this true in the adenoid variety of basal cell growths.

In judging of the site of origin of epitheliomas it is often considered sufficient to demonstrate a junction between the new growth and the epithelium of the surface or appendages. A study of Borrmann's work shows how treacherous such a procedure is.

From his study, Borrmann concludes that the so-called basal cell carcinoma, which he prefers to call corium carcinoma, originates below the basal layer in small, isolated cell complexes of embryonic origin. He believes that the difference in the morphology of these tumors is caused purely by the fetal differentiation stage to which the cells had arrived when they became isolated.

Borrmann's work has not received the indorsement it would seem to deserve and yet it undoubtedly explains so many questions connected with this type of tumor that I feel certain it is destined to receive more consideration than it has thus far.

If we accept Borrmann's views, it is not difficult to explain the marked predilection for the face which these tumors show. McDonagh[139] has recently called attention to the frequency with which embryonic epithelial masses are found in this region. He speaks of a rodent ulcer as an ulcerating nevus.

After the publication of Borrmann's article, Krompecher[140] modified his views and admitted that the majority of the basal cell tumors originated in fetal rests but a number grew from the basal layer.

Does the point of origin determine the structure? Naturally we would expect this histology of a tumor to vary according to the structure from which it takes its origin. An epithelioma originating from a hair follicle would be expected to have a different structure from one originating from a sweat gland and this again from one originating in the surface epithelium.

Because the arrangement of the cells or method of growth simulates some of the normal structure of the skin, it is often assumed that the tumor originated in that structure. If the cells have a tendency to form long parallel cords, it is thought to have originated from a hair follicle. If the cells grow with the glandlike arrangement it is often assumed to have originated in a sweat or sebaceous gland.

It is not always possible, in any given tumor of the skin, to say in just what structure that tumor originated. There are many factors besides the origin which determine the morphology. Apolant[141] says that the virulence of the tumor is a determining factor in its histology. He was able to change the structure, by changing the virulence by means of cold.

When a cell becomes malignant, it loses certain of its characteristics and acquires certain others, among which may be mentioned the power of unlimited growth, either expansive or infiltrative, the tendency to metastasize and the tendency to undergo certain kinds of metamorphosis. These new characteristics are acquired to various degrees and in various combinations.

Werner[142] says loss of normal structure and the property of infiltrative growth depend (1) on proliferative ability; (2) on cohesion of the growing tissue, and (3) on the resistance of the surrounding tissue.

Animal experiments have shown that it is possible to change the structure of a tumor in various ways, for example, from an adenocarcinoma to a solid carcinoma or even to a sarcoma, as was done by Ehrlich, Levine and others, or to change one rich in stroma, to one with a minimum amount, as was done by Apolant.

Von Hansemann[143] states that benign tumors gradually pass over to malignant ones. There is no sharp line separating the two types of growths. Different etiologic factors may cause the same tumor or the same stimulus can cause different tumors.

Realizing these facts it is readily understood how difficult it often is to determine the origin of a growth from the histopathology. If we accept Borrmann's view of the origin in undifferentiated cells, we can understand how one part of the tumor may simulate one of the normal structures of the skin and another part may simulate another.

What influence have the connective and vascular tissues on the structure of the growth?

Whether or not we agree with Ribbert that changes in the connective tissue are a necessary precursor of carcinoma, we must admit that this tissue is the host of the cancer cell. Therefore, a difference in the reactivity of the connective tissue must necessarily have an influence on the structure of growth.

Marchand[144] suggested that the overgrowth of other tissues by malignant new growths was probably due to the production of some substance in the new growth which overwhelms the tissues and impairs their resistance. In experimental carcinoma the connective tissue reactivity in animals is seen to vary, and Apolant believes the same is true of man. Krompecher says the connective tissue can affect the epithelial growth, either favor or resist it.

Borrmann says the growth of the carcinoma cells as well as the morphology of the tumor is greatly influenced by the character of the tissues in which it grows.

It would be an interesting point to determine whether the clinical appearance of some of the unusual forms of epithelioma as seen by the dermatologist, such as the morphea-like and cicatrizing types, might not be due to the influence of the connective tissue.

We will not take up the question of the inflammatory reaction in the connective tissue as the result of the epithelial growth. That subject has been well covered by Fordyce, Bonney,[145] Peterson[146] and others.

Does the etiology of the epithelioma differ according to the point of origin or the type of the growth? This is a question that has not received much attention and we feel that a consideration of the subject would show that the etiologic factors causing spino-cell carcinoma are to a certain extent different from those causing the basal cell type. The only author who seems to have considered this question is Adamson.[147] He says squamous cell epithelioma always arises in skin or mucous membrane which has been previously damaged by injury, or which has been the seat of long continued irritation. In rodent ulcer, however, the growths arise not in areas of previous damage, but in areas where benign growths of similar structure and admittedly nevoid nature are known to occur.

It certainly seems strange that of all the external causes of carcinoma of the skin which were considered in the first part of this paper, none of them predisposes to basal cell growth.

The fifth query as to what influence the various questions considered above have on the clinical appearance and course of the disease, it is impossible at the present state of our knowledge to say.

The first step necessary is a comprehensive study of the benign and malignant growths as seen by the dermatologist in an effort to arrive at a simple and adequate classification. May we suggest that this Association might profitably undertake a collective investigation of this subject?

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THE TREATMENT OF CUTANEOUS CANCER*

GEORGE M. MacKEE, M.D.
NEW YORK

In spite of the fact that we possess reasonably efficient methods in the treatment and control of cutaneous cancer, yet the results on the whole are unsatisfactory. The mortality of malignant cancer is still very high, and there are too many cases of the relatively benign basal cell epithelioma that eventually succeed in completely exhausting the patient.

While the value of our present methods of combating skin cancer is limited, yet if properly employed and at the right time, these methods are capable of producing a complete eradication of the disease. We all hope that some day a specific treatment will be developed, but, until that time arrives, we must do the best we can with our limited means. We have perfected the various technics, and we have learned to recognize that we are badly and often hopelessly handicapped by needless delay; in other words, we admit the necessity of early diagnosis and the immediate institution of adequate treatment. We, as dermatologists, recognize these facts, but many of us fail to properly impress them on the student. Granting that the patient consults a physician in the early stage of cutaneous cancer, there is no scientific reason why the growth should not be immediately recognized and adequately treated. The patient is likely to consult his family physician as soon as he notices a persistent growth in his skin or mucous membrane. The busy physician either assures the patient that it is a benign growth that requires no attention, or he hurriedly applies a superficially acting caustic and, finally, when the true significance of the tumor is recognized, even a radical operation fails to effect a permanent cure. We are all acquainted with such instances. The need of the hour is education. The lay public must be told that we possess adequate means of controlling cancer if the treatment is instituted sufficiently early and that, therefore, a physician must be consulted as soon as a persistent lesion occurs in the skin or the mucosa. The practicing physician can be reached through medical societies, the postgraduate schools and the medical press. We can do no more than this for the practitioner of today. Our main endeavor should be directed toward the undergraduate, for he is the family physician of tomorrow, and if he is

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properly instructed cancer mortality will be markedly reduced in the near future.

The student and, if possible, the physician, should be impressed with the necessity of the early recognition of cutaneous cancer. We should place as much stress on this point as we do regarding the early recognition and immediate treatment of syphilis. Also, and it seems hardly necessary to add, that we should carefully describe the methods to be employed and those to be avoided in the management of the disease. Of course, all teachers of dermatology instruct the students in the diagnosis and treatment of cutaneous cancer, but didactic instruction is not enough. The essential points must be reiterated and emphasized, and supported by frequent demonstration of cases and lantern slides. I desire to emphasize particularly the value of a good set of lantern slides made from perfect photographs, for only in this way can the student become acquainted with every clinical variety of cutaneous cancer and precancerous dermatoses. Furthermore, it is not enough to describe a treatment — the student should see actually performed every step in the technic of the various reliable methods.

Before considering cancer proper I wish to devote a few lines to the forerunners of cancer. While both the basal cell and prickle cell variety of epithelioma may develop in the unaltered skin, they are most commonly preceded by seborrheic, senile and simple keratoses. It is not always possible to distinguish between these types, nor is it always feasible to anticipate the variety of epithelioma that will develop from any one of them. I have seen basal cell epitheliomas follow arsenical keratoses, and a prickle cell growth develop on what was thought to have been a so-called seborrheic keratosis. It would seem, therefore, preferable to consider these keratoses as potentially dangerous — as forerunners of malignant cancer and advise their complete destruction. If the lesion is on the skin, and consists of no more than a clinical thickening of the horny layer, it will suffice to remove the latter with the curet, and then cauterize the base with trichloracetic acid. The action of the acid should not be checked by the addition of water or an alkali. If on the mucosa, or if there is evidence of thickening of the entire epidermis or epithelial proliferation, as manifested by clinical infiltration, it is better to consider the lesion an epithelioma and treat it by one of the methods to be mentioned later. One skin toleration dose of either the roentgen ray or radium will usually permanently cure a precancerous keratosis, especially if the horny layer is first removed. Solid carbon dioxid and fulguration are methods that are reliable in these precancerous keratoses, if properly employed. Roentgen-ray keratoses are very prone to develop into cancer, and the resulting growth is always of a malignant type. These keratoses should be

destroyed as soon as noted and before there is the slightest clinical infiltration. In these instances it is preferable to employ more drastic treatment than in senile and simple keratosis. The same is true of the keratotic lesions seen in xeroderma pigmentosum. Paradoxical as it may seem, the beta and long gamma rays of radium act well in both the roentgen ray and the xeroderma keratoses. Both the roentgen ray and radium are efficacious in the keratoses seen in the so-called farmers' and sailors' skin.

In all types of preëpitheliomatous keratosis the thickened horny layer is secondary to changes in one or more layers of the underlying epidermis, as shown by the histologic studies made by Unna, Pollitzer, Fordyce, Hartzell, Sutton, Bowen, Darier and others. It is also well to bear in mind that Hazen estimates that at least 5 per cent. of the combined simple, senile and seborrheic keratoses develop into malignant cancer. For these reasons, when treating such lesions with caustics, it is advisable to destroy the entire epidermis in and for a little distance around the macroscopic evidence of disease.

It is pretty generally accepted that Paget's disease is a primary precancerous condition and that it must be treated radically. In mammary Paget's, Hazen and others believe it is wise to consider that deep-seated carcinoma is already present, and for this reason they advise removal of the breast and extirpation of the neighboring glands. The writer cured two cases of mammary Paget's disease (one was confirmed by biopsy; the other was not) with two or three intensive doses of the roentgen ray. These patients were treated two and four years ago, and there has been no recurrence. Fordyce and others have obtained similar results in extramammary Paget's disease. Until we know more about this condition and its management it would seem that we might depend on the roentgen ray unless a careful examination reveals indications of carcinoma, when a radical surgical operation would be indicated.

Leukoplakia is an exceedingly unsatisfactory condition to treat. The disease is neither syphilis nor cancer, but it is precancerous, and inasmuch as syphilis and the various forms of local irritation that are supposedly the causative factors, may favor the final development of malignancy, prophylactic measures are strongly indicated. Small patches of leukoplakia can be destroyed with a caustic; not silver nitrate, but a caustic that will destroy the entire epidermis (potassium hydrate, zinc chlorid or better still, the actual cautery). Radium, particularly its beta rays, will cause the disappearance of the affection in most instances, but some cases are very stubborn, and there is a marked tendency toward recurrence. Patients with leukoplakia should be kept under constant observation for the first sign of epithelioma.

Lesions falling under the caption of syringoma, trichoepithelioma, benign cystic epithelioma, etc., seldom show malignant tendencies, and for this reason they can be left untreated. If, however, they are so situated that they are subjected to repeated traumatism, or if they are objectionable from a cosmetic standpoint, they may be removed by excision, by a powerful chemical caustic, or by fulguration. The point is that if they are to be treated they should be completely destroyed. These lesions can be removed with radium or the roentgen ray, but they are recalcitrant to these agents. Electrolysis is clinically efficacious, but some of the proliferated epithelium is likely to remain in or near the scar. The same may be said regarding solid carbon dioxid.

The pigmented mole is another potentially dangerous lesion. According to Hazen, the hairy pigmented mole and the elevated pigmented mole with or without hair seldom undergo malignant degeneration. It is the flat, deeply pigmented mole that is particularly dangerous. It is becoming the consensus of opinion that the pigmented mole should either be left alone or completely destroyed. Pollitzer and others have seen epitheliomas develop on moles that were treated by inadequate methods. Bloodgood has found nevoid cells in the scar after the lesion was removed with solid carbon dioxid, and the same is probably true of treatments such as electrolysis and the use of the milder caustics. Bloodgood advises and Pollitzer insists that if a pigmented mole is to be treated at all it should be removed by a wide excision. Engman prefers the actual cautery, because he believes there is less danger of metastasis. In all except the flat mole, Hazen employs electrolysis for prophylactic and cosmetic purposes, but if there is any evidence of malignancy he advises excision.

Recognized Methods of Treating Cutaneous Cancer

I doubt if I will be severely criticized if the following methods of treatment are omitted without comment: solid carbon dioxid, curetting (without the addition of some other treatment), electrolysis, diathermy, superficially acting caustics such as carbolic acid, silver nitrate, trichloracetic acid, salicylic acid, internal medication such as arsenic, dietetic and hygienic measures and, finally, the injection of chemicals, serums, vaccines, etc.

Three methods of treatment have received wide recognition and they may, therefore, be considered legitimate means of combating the disease. They are (1) excision, (2) cauterization, and (3) roentgen ray or radium.

Excision.—There is little to be said concerning excision. If the disease can be completely excised, a permanent cure will be the result. Small lesions situated in locations such as the cheek, lip, trunk, penis,

etc., can be removed by the knife, the wound sutured and the resulting scar will be hardly noticeable. In other locations, such as the nose, the inner canthus, the eyelids, etc., the operation is more difficult and the resulting deformity is objectionable. Large and deep-seated lesions in any situation are hard for the surgeon to handle on account of the difficulty of completely removing all the pathologic tissue, and of course such wounds, healing by granulation, aided possibly by skin grafting, produce considerable deformity. One well-known weakness of the method lies in the temptation to effect a good cosmetic result with the consequent retention of malignant cells in or near the scar.

The caustic method consists in the use of chemical agents, actual heat or electricity. Electricity in the form of the high-frequency spark — the fulguration of de Keating Hart, or the desiccation of Clark and Pfahler — is employed, as a rule, only as an adjuvant to some other method, usually the roentgen ray. Its purpose in large lesions is to remove the macroscopic evidence of disease before the roëntgen ray is applied. The advocates of this procedure claim a selective action of the spark for pathologic tissue, and also that the resulting inflammatory reaction is exudative in type and that the copious discharge of serum possesses not only a mechanical action, but that it contains chemical substances (toxalbumins) that exert an inhibitory action on the malignant cell. These same factors — selective action, mechanical action and inhibitory action — have been claimed for certain chemical caustics, particularly arsenious acid (Robinson). It is conceivable that a heavy serous discharge might aid in preventing an invasion of the lymphatics, that it might wash out detached cells and that it, to a certain extent, might produce a disintegration of these cells. It is of course well known that an inflammatory reaction is beneficial in many cutaneous affections, and it may be that in addition to increased circulation, phagocytosis, lymphocytic infiltration and the production of certain chemical or serologic products, there is a substance that exerts a specific action on the malignant cell. This, however, is purely speculative, as there is no substantial evidence on which such a theory can be based. As far as concerns the selective action of any caustic, my interpretation would be that the substance acts more vigorously on diseased tissue than on normal tissue, the same as does the curet. While it is difficult to concede a selective action of a caustic on malignant tissue in the sense of that possessed by the roentgen ray, there is nevertheless a difference in this respect with the various caustics. For instance, both the acid nitrate of mercury and arsenious acid produce less destruction of the healthy tissue than do zinc chlorid and sulphuric acid. Now, to return to the question of fulguration. The method is painful and the pain is not materially lessened by local anesthesia.

Furthermore, a powerful exciting apparatus is necessary, and it is not a procedure that is in general use. Nevertheless, the writer has seen some very excellent results under general anesthesia in apparently hopeless cases when this method has been combined with intensive roentgenization. It is supposedly superior to the knife or the curet because it does not open up the lymphatic and blood vessels; the tendency, therefore, is to inhibit rather than favor metastasis. Whether or not the method is superior or even equal to the actual cautery is an open question.

Cauterization.—We have now to consider the chemical caustics. The method that is most popular at the present moment is the one devised and advocated by Sherwell, namely, thorough curettage and the prolonged application of acid nitrate of mercury (liquor hydrargyri nitratis). Sherwell's technic, if properly applied, gives excellent results. It is especially applicable to lesions that, because of their size, depth or location, cannot be removed by excision and, also, lesions that have failed to respond to roentgen ray or radium. No special skill nor experience is required; all that is necessary is thoroughness. In many instances a local anesthesia combined with the hypodermatic administration of morphin will suffice, but in extensive lesions a general anesthetic is necessary.

Arsenious acid (arsenic paste) has been particularly recommended by Robinson, and the method is reliable if properly employed. Considerable experience is necessary, however, before one can determine, in a given case, the precise strength of the paste and the length of time it should be allowed to act. Robinson does not advocate the use of the curet excepting to remove the overlying epidermis so that the arsenic can come in contact with the pathologic tissue.

Anyone who has used these caustics will acknowledge that their action on normal tissue is insignificant as compared with the action on the disease, and for this reason it is possible that these chemicals are able to follow, to a certain extent, the strands of infiltrating malignant cells into normal tissue and destroy them, without producing extensive destruction of the surrounding structures. This action may also explain why the resulting scar is so surprisingly good from a cosmetic standpoint. The inflammatory reaction from arsenious acid is decidedly exudative, and Robinson places a great deal of importance on this fact. The reaction following the application of acid nitrate of mercury is edematous, but there is not a particularly marked serous exudate. Both caustics are very easily controlled.

Chlorid of zinc is another caustic that has received a certain amount of attention and favor among dermatologists, but it is not popular because it is very destructive, not selective, its action is more difficult

to control, it produces a dry necrosis and the resulting scar is not as esthetic as that following the application of arsenic and acid nitrate of mercury. Potassium hydrate is objectionable because it is not selective. Sulphuric acid and similar caustics are too powerful, too destructive, not selective and difficult to control.

Roentgen Ray and Radium.—While the beta rays of radium and perhaps the very long gamma rays will occasionally overcome a lesion that will not respond to the roentgen ray, broadly speaking the action of the two agents on cutaneous cancer is about the same. It is not within the domain of this communication to explain the selective action of these agents, nor to describe the technic of their use. Suffice it to say, for the moment, that roentgen ray or radium, properly employed, constitutes a reliable and justifiable method of combating selected cases of cutaneous cancer. The cosmetic results are superior to those of any other method. After the cure of a nodular lesion which is covered with normal skin it may be impossible to locate the former site of the disease. In ulcerated lesions the difference is not so marked, because the destruction of tissue will necessarily leave a cicatrix. In this connection it should be borne in mind that the cosmetic results are at times inferior to those of other methods — the author refers to the wrinkling and telangiectasia that occasionally follow roentgen ray and radium therapy. The absence of pain and the saving of time and inconvenience to the patient are factors in favor of roentgen ray or radium treatment. These agents are particularly indicated in lesions situated in locations such as the inner canthus, the eyelids and the nasal alæ. The fact that serious injury may follow the injudicious use of these agents must not be overlooked. This statement refers to the development of a third degree radiodermatitis which may never heal, or if it does heal, the resulting scar may be as troublesome and as dangerous as the original lesion.

The best results are obtained by intensive treatment. By intensive treatment I mean the application of a skin toleration dose, either at one sitting or in a few treatments, preferably the former. While a few men, particularly Pusey, can show admirable statistics with the fractional method, the majority of roentgenologists admit that fractional doses are not suitable for the treatment of cutaneous cancer. Incidently, the advocates of the fractional technic are really employing intensive treatment, for they produce an erythema or cure the lesion in a few applications — possibly from four to ten or twelve treatments. This is quite different from the technic that calls for from 25 to 150 treatments and which is likely to stimulate rather than destroy the growth. I prefer the administration of full skin toleration doses at one sitting at intervals of four weeks for the following reasons: 1. The

results are as good, if not better, than when the fractional method is employed, even when the latter is administered in accordance with modern ideas. 2. There is a great saving of time to the patient and to the operator. 3. The dose can be measured with an accuracy that meets practical requirements. 4. There is very little if any stimulation. 5. It is the consensus of opinion that the intensive dose in cancer is safe — idiosyncrasy is of very little importance.

One of the chief objections to the fractional method is that the operator does not carefully measure or estimate the dose, so that the personal equation or the standardization of a personal technic plays an important rôle. Instead of anticipating a certain effect from a definite amount of ray, the lesion is treated until it is cured or until it is plainly seen that such treatment is accomplishing more harm than good. On the other hand, the advocate of the intensive roentgen-ray method applies a given quantity of ray — say H 8 B 10 — which we will call the skin toleration dose. If this treatment is not followed by a marked retrogression in three or four weeks, some other method is advised. In other words, improvement should follow a definite amount of ray administered at one sitting, and if this improvement is not noted it means that the lesion in all probability is not going to respond to roentgenization and some other treatment is substituted. In this way no valuable time is lost, nor is the lesion going to be made more recalcitrant by a continuation of treatment that is accomplishing no good and which may prove harmful.

What has been said regarding the roentgen ray is also true of radium, only that with this agent the estimation of the dose is determined entirely by time and the amount of radium element contained in the applicator.

It seems hardly necessary to add that the three methods outlined should be administered only by one who thoroughly understands the seriousness of the disease and who is well acquainted with the advantages and limitations of each method.

Types of Cutaneous Cancer and Selection of Method of Treatment

Now let us consider the various types of skin cancer and discuss them in relation to the three methods of treatment already decribed. Epithelioma can first be divided into (*a*) the basal cell, and (*b*) the prickle or squamous cell types.

Basal Cell Epithelioma.—In this type we have no fear of metastasis, and as the lesions are of slow growth there is no particular hurry, and any method that will remove all the pathologic epithelia will naturally effect a permanent cure. Any one of the three methods outlined may

be employed and apparently with equally good results so far as a permanent cure is concerned. Statistics do not favor any particular method. Hazen, by combining his own cases with those of Bloodgood, collected a series of 178 basal cell epitheliomas which were removed by excision. He gives a percentage of permanent cures of eighty-six in unselected cases, while if the practically hopeless cases are omitted, 93 per cent. were permanently cured. Sherwell thinks that at least 90 per cent. of his acid nitrate of mercury cases were permanently cured. These figures, however, are not based on carefully compiled statistics. On the other hand, Sherwell's cases were unselected, and many of them were practically hopeless and some of the lesions were probably of the prickle cell variety, as Sherwell does not in his writings differentiate between the two types, excepting that he recognizes the futility of treating cases by this method when glandular involvement is manifest.

We are all acquainted with the excellent results obtained by Robinson with the arsenic paste. He selected his cases, but he treated prickle cell growths if the lesions were small and unassociated with palpable glands. Unfortunately, Robinson has never published statistics, but in a personal interview he placed his probable percentage of permanent cures at about ninety-two.

Regarding the roentgen ray, I can record a study of 268 unselected cases of basal cell epithelioma treated by the intensive method. The percentage of permanent cures was eighty-five. This can be increased to 90 per cent. by including the relapses that were cured a second time by the same method and which remained well for a number of years. If only the selected cases are recorded, the percentage of permanent cures would be above ninety-five.

While there are no available radium statistics it is probable that the results would be about the same as with the roentgen ray.

It will be seen, then, that so far as statistics are concerned there is little choice between the three methods. It is, therefore, a question of selecting the proper treatment for the individual case. I believe, for reasons already enumerated, that the roentgen ray or radium constitutes the method of election in every untreated case of basal cell epithelioma, unless the lesion is very extensive and deep seated. I advocate at least one intensive application, and if this is followed by a marked retrogression, the treatment is continued, if not, one of the two remaining methods is advised. If the lesion is deep-seated, indurated or markedly nodular, it is at first curetted, because in studying my statistics, I found that 50 per cent. of the curetted cases were cured in one treatment as against 28 per cent. in the cases that were not curetted. In very extensive lesions it is advantageous to combine Sherwell's

method, fulguration, or the actual cautery with intensive roentgenization or radium therapy.

When a lesion refuses to retrogress under the influence of radium or the roentgen ray, or if these agents cannot be properly applied, I favor excision if the growth is small and suitably situated, otherwise Sherwell's method is preferred.

Squamous Cell Epithelioma.—In this type of epithelioma we are dealing with a dangerous lesion; one that may grow rapidly and in which metastasis is likely to occur in the early stages of evolution. In the treatment of malignant cutaneous cancer there is but one desideratum — its early and complete destruction. There should be no consideration for the comfort of the patient, for his convenience, for cosmetic result, etc. As a rule, the experienced clinician has no difficulty in differentiating between the basal and the squamous cell types of cutaneous epithelioma, but this is not always possible. If there is the slightest doubt about the diagnosis it is preferable to consider the lesion as malignant and treat it accordingly. There is a growing conviction that it is unwise to remove a piece of tissue from a suspected malignant epithelioma for microscopic study because the incision may favor metastasis by opening the lymphatic channels. For the same reason the use of the curet and incisions for the insertion of radium are being condemned. Excision certainly has the advantage of allowing a microscopic study, and right here I desire to emphatically state that the excision of every malignant neoplasm should be followed by a study of serial sections, not only to determine the particular type, but to see if the entire growth has been removed.

It seems to be the general consensus of opinion that every squamous cell epithelioma that can be completely excised should be removed in this manner. Unfortunately, one cannot be certain at the time of operation whether or not metastasis has occurred, and for this reason many surgeons advise not only the removal of the lesion, but of the neighboring glands as well — in other words, a radical operation in every case. This seems like very drastic advice, but statistics warrant it.

It is a fact that both radium and the roentgen ray will permanently cure a very young malignant cutaneous tumor with as much certainty as will any other method, and if the lesion is small and without induration, such treatment is permissible. On the other hand, if the growth is indurated, deep or well advanced, these agents, while occasionally producing the desired result, are too unreliable to be used in any but inoperable cases. The mere fact, however, that radium and the roentgen ray are capable of exerting a certain amount of influence should warrant their use as adjuvants to other methods. It would seem advisable, for instance, in case of excision, to apply two or three inten-

sive, cross-fire doses to the excised area and also to the neighboring lymphatic glands, whether or not the latter have been removed.

Sherwell's technic is objectionable on account of the curettage. Furthermore, we have no statistics of either this method or of the arsenic paste method with which to compare with those of the surgeons. As far as small local lesions are concerned, either of these technics are likely to effect a permanent cure. It is not a question of local relapse, however; it is a question of metastasis. The advocates of fulguration and of the arsenic paste aver that the copious serous exudate militates against this possibility, but as yet they have offered no statistics to prove it.

Without entering into a further discussion, the treatment of malignant cutaneous epithelioma might be outlined about as follows:

1. If the lesion is in the earliest stages of evolution a local cure may be expected as a result of adequate treatment with arsenic paste, actual cautery, roentgen ray or radium, fulguration and excision. It is advisable even in these early cases to apply the roentgen ray to the treated area and the neighboring lymphatics when the lesion has been destroyed by some agent other than radium or the roentgen ray. Speaking comparatively of the roentgen ray and radium, there are instances when the latter is of greater value, namely, in roentgen-ray cancer and the growths that occur in xeroderma pigmentosum. Radium is also preferable in epitheliomas developing on leukoplakia, not only on account of the location, but because the results are superior.

2. If the growth is advanced beyond the very early stages it should be removed by excision and the roentgen ray applied as a prophylactic agent as already outlined.

3. If, for various reasons, the lesion cannot be excised it can be removed by the actual cautery or with arsenical paste and the roentgen ray used as a prophylactic.

4. Finally, there are cases in which, on account of certain complications and difficulties, none of these measures can be ultilized. In such instances we can resort to Sherwell's method.

Theoretically the roentgen ray should be of value as a prophylactic, but there are no statistics on which to estimate its practical value for this purpose. I have seen it fail in cases that were considered particularly favorable. On the other hand, it has succeeded when the outcome was very doubtful. The best roentgenologists of the world are convinced that it is of real value as a postoperative procedure, and also that it is of value in inoperable cases, and for these reasons it is entitled to a thorough trial.

Malignant cutaneous cancer, secondary to a subcutaneous or visceral carcinoma, is usually multiple, and the original lesion is, as a rule,

inoperable. These cutaneous lesions will ordinarily disappear under the influence of the roentgen ray or radium.

SARCOMA

In this growth, as in epithelioma, there are different grades of malignancy, and the success of treatment will naturally depend largely on the type. The greatest danger in sarcoma is the tendency to early metastasis. For this reason prophylaxis is of the utmost importance, that is, the complete destruction of presarcomatous lesions. With the exception of Kaposi's sarcoma and multiple sarcomas, it is the general consensus of opinion that a sarcomatous lesion should be removed, if possible, by a wide excision or with the actual cautery. In addition, I would have the roentgen ray applied to the site of the lesion and to the neighboring glands as a prophylactic. The excellent results obtained by Wickham with radium in the various types of sarcoma and by Pfahler and others with the roentgen ray, would warrant the use of these agents in lesions that cannot be excised. Some of the best therapeutic results obtained by me have been in cases of sarcomas treated with radium and the roentgen ray. None of these lesions could have been excised, but some of them could have been destroyed with the actual cautery. However, the patients and the consulting physicians decided against surgical intervention. One patient was a woman of 70 who had a vegetating melanoma of the forehead. The lesion was as large as an infant's fist. It entirely disappeared under the combined influence of radium and the roentgen ray, and there has been no recurrence in a period of two and one-half years. Another somewhat similar case was a nurse who had a slightly infiltrated melanoma of the forehead, the size of a 50 cent piece, with numerous outlying satellites. These disappeared under roentgen-ray treatment, and the patient is well today after a period of three years. Another patient was a girl of about 20, who had a cutaneous sarcoma of the entire side of the face. The lesion entirely disappeared as a result of two intensive roentgen-ray treatments. The patient died about a year later of pulmonary tuberculosis. Naturally, one might consider, here, the possibility of sarcoma of the lungs, but this patient was phthisical and the sputum contained large numbers of tubercle bacilli. The face lesion was diagnosed by microscopic examination of excised tissue. I have obtained similar results in multiple sarcomas, the Spiegler-Fendt type of sarcoid, Kaposi's sarcoma and sarcomas of unknown type. I desire it to be understood that I do not advocate the use of the roentgen ray or of radium in operable sarcoma, excepting as a prophylactic after surgical operations, but I do believe that these agents should be employed in lesions that for any reason cannot be handled by a surgeon.

REPORT OF A CASE OF DARIER'S DISEASE (KERATOSIS FOLLICULARIS)

GIVING THE RESULTS FROM ROENTGEN-RAY TREATMENT WITH THE COOLIDGE TUBE *

ALFRED SCHALEK, M.D.
Professor of Dermatology and Syphilology, University of Nebraska College of Medicine
OMAHA

The occurrence of keratosis follicularis is not as rare as originally thought. Unquestionably many cases remain unrecognized. The pathology has been thoroughly investigated by Robinson, Wende, Lieberthal, Mook and others in this country and little can be added that would be new and of interest in this direction. The object of this paper is to report a case of Darier's disease with some unusual clinical features and also the results of roentgen-ray treatment with the Coolidge tube.

Scheer states that his case of Darier's disease of one month's standing was of the shortest duration recorded in the literature. The case which I have under observation started, according to the patient's statement, three months ago, and since that time has involved practically the whole body and shows changes such as would only be expected after many years' duration.

REPORT OF CASE

W. B. E., aged 39 years, was born in Sweden and is employed in the stock yards. He had never had any serious disease. The family history is negative. His habits are temperate excepting excessive smoking of cigarets. He stated that his skin was always dry and that he never perspired freely. He is muscular and well nourished. The present eruption was first noticed during October, 1916. It began on his palms which became itchy as soon as they were warm. The eruption then appeared on the feet and gradually spread over the whole body affecting the face last. The itching is severe at times. Present Condition: The scalp is covered with thick scales, the skin underneath is dry and red. The hair is lusterless and thin. Face: The skin is thickened, with the natural folds exaggerated, erythematous and covered with fine, bran-like scales. Considerable burning is complained of. Body: The entire surface is involved and there is not a normal appearance at any point. Some portions are hyperemic, diffusely infiltrated, rough and scaly, others are covered with more or less extensive patches of closely aggregated, discrete, minute, yellowish-brown, pointed, firm papules, resembling a nutmeg grater. Many of these papules show horny plugs protruding from the central openings. The palms

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and the soles are thickened, covered with large, partly exfoliating, partly tightly adherent scales. Painful fissures are present in the natural folds. The nails of both the feet and hands are greatly hypertrophied, brittle and thickened by subungual mortar-like masses. This condition of the palms is somewhat different from other cases reported, in which the exfoliation is not mentioned as a prominent feature, but weight is laid rather on an even thickness with depressions and umbilications.

HISTOPATHOLOGY

A section of the skin was taken from the exterior surface of the left upper arm, and after fixation in formalin, was frozen and stained

Fig. 1.—Keratosis follicularis. The disease began on the palms and gradually spread over the whole body, including the scalp.

with hematoxylin and eosin. The horny layer appeared thickened throughout, forming a network of densely arranged lamellæ. Nodules or horny plugs in some instances extended well down into the follicles, in others they seemed confined to the uppermost layers in a cup-shaped excavation formed by the overlapping of the surrounding rete. The rete, apparently normal in some places, was much distorted in others; the papillae were elongated and almost obliterated along the sides of the plugs. Beneath a large, deep-seated plug the rete cells were greatly

flattened out, having a stratified appearance. Many rete cells in different localities, independent of the plugs, showed vacuolization. Their walls stained sharply. The lower border of the rete was in many places badly defined and extended into the corium. Considerable cell-infiltration was observed throughout the corium, especially marked below the rete and around the follicles and gland ducts. The connective tissue of the corium seemed normal.

TREATMENT

Practically all reports on the treatment of these cases give the roentgen ray the first and only place for any relief. The majority of

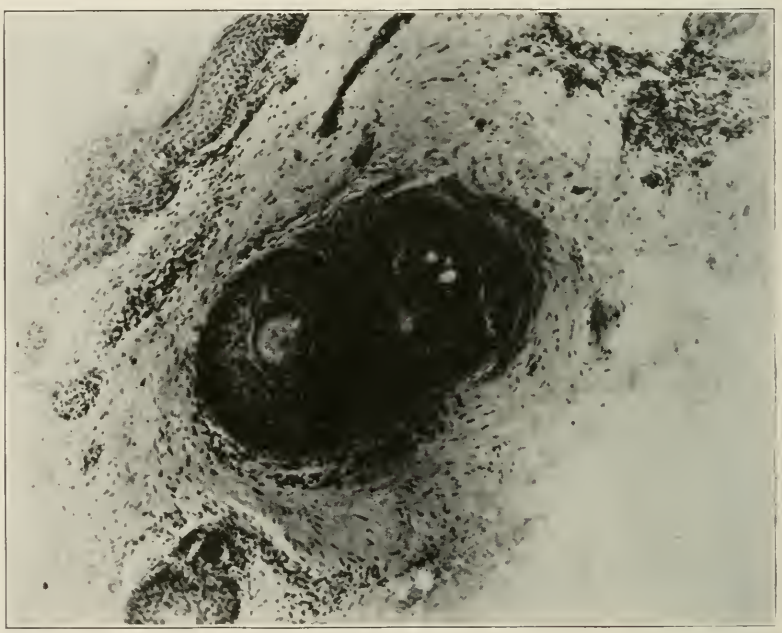

Fig. 2.—A deeper section of the follicles, showing the rete cells flattened out and stratified.

dermatologists are using the roentgen rays in an empirical manner, and while they have achieved very good results in this way, the method has many drawbacks. It does not allow others to follow their procedure to get the same results, and necessitates individual experimentation. The use of the roentgen rays in cutaneous work as published in textbooks and monographs is, with few exceptions, described in a vague manner. When looking up the literature on the treatment of Darier's disease I found it mentioned like this: "He was given X-ray treatment for a few weeks and was considerably improved." Or, "Treatment with X-ray produced marked improvement." It might be

inferred from this that all roentgen-ray treatment of different skin diseases is given in practically the same length of time, the same dosage and with the same penetration. The pathologic conditions and the involvement of different tissues did not seem to influence the selection of the rays. The disadvantages of the gas tubes must be blamed for the foregoing objections. Their vacuum changes constantly, and with it the quality and quantity of the rays, so that it is difficult to duplicate an exposure which has been found effective. MacKee has done pioneer work in putting roentgen-ray therapy on a scientific basis, but his method is too complicated to be followed generally without an extensive outfit and plenty of assistance. With the advent of the Coolidge

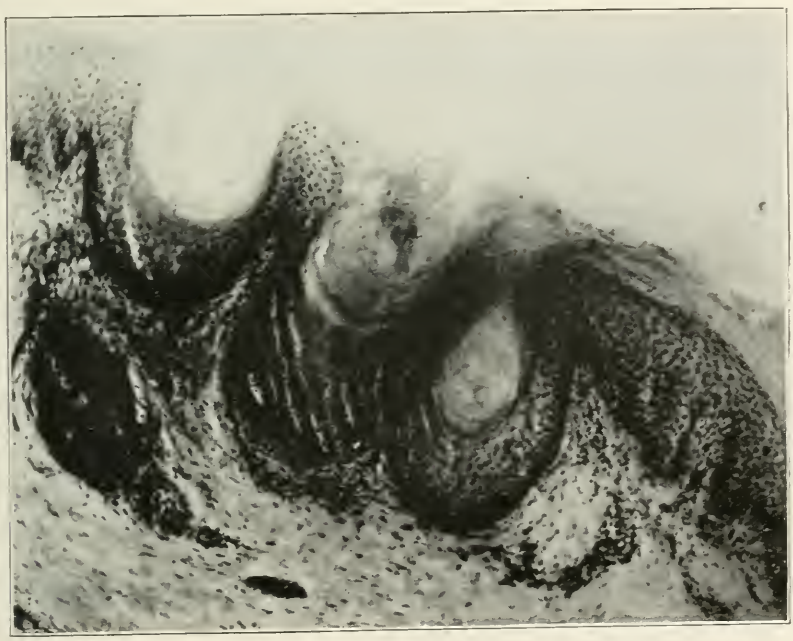

Fig. 3.—Horny plugs in the follicles, which extend downward and distort or obliterate the papillae and rete.

tube, the technic has been simplified a great deal. We are now able to standardize our treatments and repeat them over and over again. Whatever errors occur in the reading of the color of the pastilles, as used in the different radiometers, are negligible. Filtration should always be used with the rays from a Coolidge tube even in superficial conditions. The thickness of the aluminum filters is selected commensurate with the depth of penetration wanted, but according to Pfahler the absorbing value of the aluminum filters does not correspond progressively with the increased thickness, so that the first millimeter absorbs almost as much as the next two. For this reason the danger

of burns can be considerably reduced without the loss of efficient rays. A 5-inch spark-gap transformer allows a penetration of 2 inches in depth or more, and is sufficiently powerful for all cutaneous therapy.

The choice of the quality and quantity of the roentgen rays in the treatment of my case of Darier's disease was based on the consideration of the pathologic conditions present in this affection. This condition being mainly a hyperkeratosis of the pilosebaceous and sweat-duct orifices with secondary cellular infiltration and changes in the

Fig. 4.—Section of the horny plugs situated deeper in the follicles.

prickle cells. I thought it advisable to use strong, deep rays within the erythema limit to reach the deeper structures. The exposures were given to different parts of the body, first on alternate days, later twice a week. The face, palms and soles were given most frequent treatments. The average dosage were rays registering 4 milliamperes, through a 1 millimeter aluminum filter, at 8 inches distance, with a 5-inch spark-gap for five minutes, representing about two-thirds of a Hampson erythema dose. Erythema was produced only once, after the first exposure of the back. Immediate benefit was experienced in

the relief of the itching. The skin gradually became softer and smoother, and the patient, as he stated himself, had more sensation than since the beginning of the skin affection. The thickened epidermis of the palms and soles became loosened and was gradually exfoliated. The nails became softer and were easier to be taken care of. The keratotic papules on the body flattened and finally disappeared with branny scaling. At the writing of this report, three months after the roentgen-ray treatment was started, the patient is greatly improved and a diagnosis of his original trouble would be difficult. No other treatment besides the roentgen-ray exposures was employed, excepting frequent alkaline baths and inunctions with indifferent ointments.

DISCUSSION

Dr. Zeisler asked if the reader of the paper had mentioned the condition of the scalp.

Dr. Schalek replied, Yes. The scalp was covered by thick masses of scales.

Dr. MacKee called attention to several articles on the program, the titles of which led one to believe that the results were due not to the roentgen ray, but to some peculiar quality associated with the Coolidge tube. He said that the Coolidge tube represented a great advance in roentgenologic technic. The main practical difference between the Coolidge and the gas tube was in the fact that the former would run on any length of spark gap and any reasonable amount of current for any length of time. The therapeutic effect of the ray from the Coolidge tube was, however, exactly the same as that from the old-fashioned gas tube.

He asked Dr. Schalek on what he based his diagnosis of Darier's disease. The microphotographs showed an ordinary follicular keratosis and Dr. Schalek did not mention the presence of dyskeratosis or of the so-called psorosperms; further, he was under the impression that these two pathognomonic features were present even in the very early stages of the affection.

Dr. Schalek replied, in answer to the remarks made by Dr. MacKee, that he did not claim that the Coolidge tube did anything that any other tube could not have done as well. He called attention to the fact that now that roentgen-ray treatment of skin diseases was on a scientific basis, we could use the rays to better advantage. He also stated that he thought the case was one of Darier's disease in spite of the absence of the psorosperms. They were probably absent because of the short duration of the disease.

Society Transactions

NEW YORK DERMATOLOGICAL SOCIETY

Regular Meeting, April 24, 1917

James C. Johnston, M.D., *President*

NEVUS PILOSUS. Presented by Dr. Sherwell

The patient, Ed. S., aged 2 years, was brought to the office on April 16, with a marked cosmetic deformity. The entire scapular region and shoulder, and the right upper arm nearly as far as the elbow joint were occupied by a hairy mole, the hair on the upper part of the arm being 2 or 3 inches long. The mole was congenital, and the hair growth had simply increased *pari passu* with age. The mother gave no history of shock—physical, mental, or moral; her gravid condition was in every way normal, and her parturition equally so. In the speaker's opinion, no form of mechanical epilation or use of rhusmas, etc., would be effective, but he desired the opinion of the Society on this point, especially as to the possibility of radium and roentgen-ray treatment being of any benefit in after years. The patient lived in a country town in New York at a distance from the city, and the parents were in very moderate circumstances.

DISCUSSION

Dr. Clark thought it was best to leave the case alone, simply cutting or shaving the hair as necessary. When the child was older, two or three years of treatment with CO_2 snow or radium might possibly relieve it.

Dr. Winfield thought that good results might be obtained with snow if the patient lived where the nevus could be treated regularly for some time.

Dr. Whitehouse thought it would be better to defer any treatment until the patient was older.

Dr. MacKee thought it was not a suitable case for roentgen-ray treatment. The roentgen-ray treatment would remove the hair, but would have little or no effect on the pigmentation, and even the removal of the hair might lead to disagreeable sequelae later in life. He could suggest nothing better than a plastic operation or CO_2 snow, but with such a big area the CO_2 treatment would be quite extensive. He was inclined to think that a plastic operation would be the best way to remove the condition.

Dr. Trimble thought that the condition had best be let alone. The child was a boy, and in that location the lesion would practically never be seen. In his opinion the CO_2 snow would be the best treatment, but it would require over two or three years.

Dr. Potter agreed with Dr. Trimble. If the patient wanted anything done later, it could be tried. He believed that carbon dioxid snow would be the method likely to give the best results.

CASE FOR DIAGNOSIS. Presented by Dr. Clark

The patient, Miss B., aged 23, was born in the United States. She was well and strong until several years ago when, after exposure at the San Francisco fire, she had rheumatism for several months. During that period and for a while after, she took hypnotic drugs, among them sodium bromid. She had not, however, taken any drugs for over two years before the eruption broke out. Two years previous to the present examination a rash that formed small

nodules broke out across the shoulders. The eruption spread to the body and extensor surfaces of the arms and legs. It was very itchy from the first. The lesions would last two or three months—the patient stated that they oozed blood from time to time and would finally heal after quite a severe, thick stringy bleeding, leaving a pigmentation but no scarring. Eighteen months ago the patient had chills and fevers, and was in bad health for several months. Of late the lesions had been fewer and old lesions had tended to disappear and the itching to cease, after painting them with iodin. For the past ten days the patient had been having chilly sensations again.

When first seen, a few days previously, the patient presented many pigmented stains on the body and extensor surfaces of the arms and legs, with many scattered, flat nodules, from pea to bean size. Some of the nodules were moist on the top, and others were slightly crusted. The eruption was most pronounced on the hips and thighs. The patient had tried many lines of treatment, among them, a vegetable diet for many months at a time, without any apparent effect on the lesions. She looked well and apparently was otherwise in good health. The urine and Wassermann tests were negative. The differential blood count revealed: Polynuclears, 40 per cent.; small lymphocytes, 43 per cent.; large lymphocytes, 10 per cent., and eosinophils, 1 per cent.

DERMATITIS ACTINICA. PRESENTED BY DR. TRIMBLE

The patient was a woman, aged 55. Her breast had been removed for carcinoma, seventeen years ago. She was advised at that time to have roentgen-ray treatment and a great many exposures were given (probably about fifty) during a period of a year. After the treatment was stopped, from time to time telangiectases appeared. The condition as presented covered the upper right quadrant of the body. Over the whole area, front and back, were myriads of telangiectases, keratoses, etc. The skin was atrophied and broke down very easily.

DISCUSSION

DR. FORDYCE said that the result was a very unfortunate one, and further remarked that the profession still needed much instruction in the correct use of the roentgen rays.

DR. MACKEE said that the case was presented to show the marked roentgen-ray sequelae following a roentgen-ray dermatitis. There was never any ulceration, and while the history was not very clear there were probably repeated eruptions or it may have lasted for a long while—perhaps several months. In the old days of fractional doses, the treatment was continued until an eruption appeared. It was interesting to see such a deformity following that type of dermatitis. The condition now developing was certainly a preëpitheliomatous variety, and it would undoubtedly develop into a roentgen-ray cancer. A telangiectasis of that type was liable to follow a single attack of erythema; and while one was justified in producing an erythema while treating cancer, it was not justifiable to produce an erythema in the medullary tissue. However, from a single erythema one would not expect to get atrophy or keratosis, or epithelioma, though one might get a very disfiguring condition. The roentgen ray should not be used for a mild acne, psoriasis, etc.

DR. SHERWELL said he had seen a case of epithelioma produced by a light or seemingly light application of the roentgen ray, used over the pubis for possible stone in the bladder—the exposed area being the size of a dinner or dessert plate. The patient passed blood in small quantities with the urine. There were not more than two exposures, given by a neighboring physician. The patient was one of the best known civil engineers in subway construction, and had been under high air pressure a good deal. He had the characteristic radiating telangiectases, with a distinct epithelioma in the center. The speaker said he had curetted the tumor and cauterized it in the usual manner. That was twelve or fourteen years ago, and there had been no recurrence, though

the scar and telangiectasis remained. It had taken a long time for recovery from the roentgen-ray burn.

DR. TRIMBLE said the case was presented to show what happened years ago, before much was known about the roentgen ray. It seemed probable that epitheliomas would develop in certain areas. The condition in front, where it seemed to be breaking down, was not there when the patient was seen two months before.

CASE FOR DIAGNOSIS. PRESENTED BY DR. TRIMBLE FOR DR. HALPERIN

The patient was a married man, aged 27. His previous history was negative except for an attack of erysipelas in November, 1916. The present condition began in February, 1917, with an outbreak in the groin. This was followed by the development of several lesions on the abdomen and chest, then on the scalp and the mucous membrane of the mouth, the tongue and the lips. The lesions in the groin and on the scalp were of a vegetative and pustular nature. The lesions in the groin disappeared, and the scalp condition had improved on the application of antiseptic ointments and injections of staphylococcus vaccine, but a recurrence had taken place. At the time of presentation the patient had numerous pustular and vegetating lesions on the scalp, several dry lesions on the trunk, red patches in the mouth and on the tongue, and crusted lesions on the lips.

DISCUSSION

DR. POTTER said it seemed to be a staphylococcus infection. The condition in the mouth did not appear to be the same as the others, but resembled more the ulcerative lesions in the mouth, due to streptococcus.

DR. KINGSBURY thought it looked like a beginning pemphigus. The conditions in the glands suggested that disease.

DR. FORDYCE said that one should bear in mind the possible diagnosis of pemphigus vegetans. The long duration of the disease, the loss of weight and the cachexia suggested it. He did not recall ever having seen such pemphigus of the scalp, but there was no logical reason why it should not appear there. The presence of lesions in the mouth was seldom or never seen in staphylococcic or streptococcic infections.

DR. HEIMANN agreed with the diagnosis of pemphigus vegetans. He had seen a similar case on Dr. Goldenberg's service at Mount Sinai Hospital, excepting that the lesions were not so severe.

DR. WINFIELD said that the mouth lesions looked like pemphigus vegetans, but the lesions on the skin looked like vegetating dermatitis.

DR. WHITEHOUSE agreed with the diagnosis of pemphigus vegetans on the general physical condition and the condition of the throat.

DR. MACKEE suggested a search for the point of entrance of the infection, and told of a case in which the infection started on a woman's chest and spread to other parts of the body. A diagnosis of mild pemphigus was made, and she was treated for several months. Finally two abscesses were located at the roots of the teeth. Two teeth were removed, and the woman had no more lesions. Whether that was a mere coincidence or whether the abscesses formed the etiologic factor could not be definitely determined, but it would seem as though they were.

DR. TRIMBLE said that Dr. Halperin's tentative diagnosis was dermatitis vegetans. That was on the basis of the rapid healing of the former lesions in the groin. When he first saw the patient he too thought of pemphigus vegetans, basing that diagnosis on the mouth lesions. He had never seen that condition on the scalp, but the lesions resembled that disease.

CASE FOR DIAGNOSIS (DERMATITIS HERPETIFORMIS?). PRESENTED BY DR. TRIMBLE

The patient was a man, aged 45. For six months he had had a papulopustular eruption on the backs of the forearms and anterior aspects of the knees and legs. Most of the lesions were papular, although pustules could be occasionally observed. The patient complained of severe itching. He had had no previous attack. When first seen the pustules outnumbered the papules, but now the reverse was the case. He had been treated for a month, with very little improvement.

DISCUSSION

DR. LANE thought it was a staphylococcus folliculitis—an impetigo.

DR. WISE agreed with Dr. Lane.

DR. FORDYCE thought the case was one of staphylococcus folliculitis.

DR. TRIMBLE said that staphylococcus folliculitis was his first diagnosis but that he was now somewhat in doubt about it. The case looked as it did when he first saw it, having more of the small superficial pustules, like impetigo; the patient, however, had been treated with various antiseptic ointments and had also had two or three injections of staphylococcic vaccine without any benefit; accordingly he had become doubtful of the diagnosis, but would persist with the treatment a little longer.

ERYTHEMA MACULATUM PERSTANS. PRESENTED BY DR. WISE FOR DR. FORDYCE

The patient, a young married woman, had been presented before the last meeting of the Academy of Medicine.

DISCUSSION

DR. FORDYCE spoke of a similar case which he had seen in private practice, in which the erythematous lesions recurred a number of times in the same locations and left a pigmented skin behind. In one of these cases the patient had a gonococcus infection.

DR. HEIMANN said that a curious feature was that the pigment did not seem to be of hematogenous origin. On close examination it seemed to be due to chromatophores. Originally it was supposed to be a hemorrhagic condition in the erythema multiforme group.

DR. WHITEHOUSE said the case was like one he had presented some months before of erythema multiforme—it acted just like that. The erythematous patches would recur in the same areas and leave pigmented areas like this. It was regarded as a kind of purpura, but now he believed that it was erythema perstans, like this case.

DR. MACKEE said that Dr. Heimann's remark was a very important finding, and that it was a real pigment, chromatophores, rather than pigment in the blood.

LUPUS ERYTHEMATOSUS, DISCOID TYPE. PRESENTED BY DR. HEIMANN FOR DR. FORDYCE

The patient was a man, aged 30, who had suffered from the condition for five years. He also gave a history of having had a chancre sixteen years ago. The eruption appeared in the region back of the ear, on the sides of the ears, on the cheeks, the nasal area and the chin. The lesion on the nose consisted of an erythematous, scaly and pitted eruption, and covered the entire nose from base to tip, with the exception of a small portion of the alae. There were large bean-shaped lesions on both cheeks, and a few old, pitted scars on the chin. The lesions on the cheeks strongly suggested syphilis; those on the nose, lupus erythematosus.

DISCUSSION

DR. MACKEE said he had heard Dr. Clark say that perhaps the roentgen ray might prove efficacious with this kind of lupus erythematosus, but not the Kromayer light. In his own experience, the roentgen ray had proved almost useless in lupus erythematosus, but radium was apt to be very efficacious—temporarily so at least—preferably the beta rays, with a radium plaque which was only slightly filtered, for the beta rays were quite penetrating. Apparently these rays proved efficacious in lupus erythematosus.

DR. WHITEHOUSE, reverting to the fact that some of the old methods that used to give results were often now neglected, said that this was a case in point. These and similar cases used to be treated with multiple scarifications—the scarifications going through the whole extent of the lesion—not deep, but close together and crisscrossed. The result was most excellent. It not only cured the lupus erythematosus, but smoothed off the surface, leaving a better cosmetic effect than the methods now employed. The CO_2 snow often left a bad effect. It might be well to try the multiple scarification in this instance.

DR. FORDYCE asked Dr. Whitehouse if he had ever cured a case of lupus erythematosus with multiple scarification.

DR. WHITEHOUSE replied that the patient had been temporarily cured, at least, and had never returned.

DR. FORDYCE said that when the lesions of lupus erythematosus were curetted they usually recurred at the margins. He had obtained better results from CO_2 snow than from any other method of treatment. He had seen cases treated successfully by Dr. Abbe with radium.

DR. LANE showed a photograph of a case of severe bromid poisoning occurring in a child, 4 months old, who had been taking 4 grains of potassium bromid for a week. At first it was diagnosed as chickenpox. The eruption was of the ordinary type but was rather exaggerated.

DR. WHITEHOUSE reported two interesting cases of lupus serpiginosus that were in the hospital. One of the patients was a woman, aged 55, who had had the condition for thirty-five years, developing, as she stated, after scarlet fever. It extended over the back, knees, thighs, and abdomen, and over one side of the face into the hair. There was a cicatricial area in the center of the thigh lesion, giving a picture very much resembling serpiginous ulcerating syphilis.

The other patient was a boy, aged 12, who had had the condition for seven years, following a scratch by a cat. The disease extended over the back to the lumbar region and over the abdomen down to the pubis. It was a question what to do for cases of this sort—whether to use the roentgen ray, taking in an isolated area, as on one knee in this case, 6 or 7 inches in diameter, or whether tuberculin injections would have any effect. He was trying the latter in both cases, giving it every five days. The boy had had some parts removed and skin grafted, but it seemed a hopeless prospect.

NEW YORK ACADEMY OF MEDICINE SECTION ON DERMATOLOGY

Regular Meeting, March 6, 1917

GEORGE M. MACKEE, M.D., *Chairman*

DERMATITIS HEMOSTATICA. PRESENTED BY DR. POLLITZER

S. R., aged 53, was of Russian nationality and worked as a butcher. The affection began eighteen months ago as a bluish discoloration on the dorsal surfaces of both feet, close to the ankles. The original areas were about

1 inch in diameter. When presented before the Section, the skin on the anterior and lateral surfaces of the legs, from the ankles to the knees, was slightly thickened and scaly, in which there were many small areas of a dark, reddish-brown color and numberless pin-point, brownish and bright-red macules. Punctate hemorrhages would sometimes occur after firm pressure. The larger cutaneous veins of the legs were markedly varicose.

DISCUSSION

DR. LAPOWSKI observed the case a year ago and considered it to be one of ordinary purpura.

DR. GOLDENBERG said that he had heard that this eruption had been considered, by a previous observer, to be purpura annularis telangiectodes—a diagnosis which he could not accept.

DR. HEIMANN said he had seen the histologic specimens and that they suggested the changes found in purpura annularis telangiectodes. Clinically, however, he was in doubt about the diagnosis as it did not conform to the usual clinical picture.

DR. SATENSTEIN said that a careful clinical study would reveal red puncta which consisted of telangiectatic vessels. Furthermore, these puncta produced annular lesions in places, with central pigmentation and slight atrophy. The clinical picture was certainly not that of ordinary purpura. The eruption had existed for over a year and while new lesions continued to develop, the older ones gradually disappeared, leaving atrophy. Histologically there was no dermatitis and no evidence of hemorrhage. The vascular coats were thickened or swollen and the individual elements of the walls could not be made out. On the strength of the microscopic findings he was inclined to consider the case as representing purpura annularis telangiectodes.

DR. WISE said that he could not make a definite diagnosis but knew that cases of this type were common. He did not think it was an example of purpura annularis telangiectodes.

DR. MACKEE said that he had had the opportunity of observing several authentic cases of purpura annularis telangiectodes and he had had occasion to read the literature of the subject. The disease was, the speaker said, an absolute clinical entity. The eruption was not secondary to a preceding condition. The disease was usually limited to the feet, legs and thighs but was occasionally encountered on the buttocks, abdomen, chest, back, arms and forearms. The affection occurred as a rule in definite and repeated attacks; the total time required for evolution and involution was from two to six or even eight months. The elementary lesion was a bright-red punctum, occurring, as a rule, in connection with a hair follicle and due to a dilated capillary which often became thrombosed. Hemorrhage occurred secondarily and subsequently gave rise to more or less pigmentation. The disease was not, therefore, a purpura and for this reason Majocchi, who first described the affection, desired to change his original descriptive title to telangiectasia follicularis annulata. New punctate lesions continued to develop in the immediate neighborhood of the original punctum, until a patch the size of a lentil had developed. By this time the central puncta were disappearing and being replaced by pigmentation and, in some instances, by atrophy and alopecia. In the meantime, however, new puncta continued to develop beyond the periphery so that the circinate lesion increased to the size of a dime or even larger by the acquisition of outlying satellites. Finally all the lesions would disappear and after a period of quiescence, another attack was likely to manifest itself. The disease could, therefore, be divided into three stages—telangiectatic, hemorrhagic and pigmentary and finally, but not in all cases, atrophic. While the annular lesion was the most striking clinical feature, yet in some instances these were not so very numerous, so that the eruption might consist of widespread puncta with here and there an annular lesion. Thus borderline cases were occasionally

observed in which it was difficult to confirm the diagnosis either clinically or histologically.

Histologically, the typical and most marked features were a marked dilatation and congestion and a numerical increase of the capillaries, ruptures and hemorrhages, and a slight to moderate focal infiltration of small round cells. Occasionally aneurysmal sacculations of the vessels could be detected. Later there developed a panarteritis and, finally, complete destruction of the vessels by a degeneration of their walls—usually a hyaline degeneration, with subsequent atrophy of the epidermis and even of the derma.

The speaker said that while Dr. Pollitzer's case showed some of the clinical and histologic features of purpura annular telangiectodes, he was unable to identify the case as such because it was too atypical and it was quite possible that the diagnosis of dermatitis hemostatica was the proper one.

DR. POLLITZER said he did not consider the case as being one of purpura annularis telangiectodes. He thought that this eruption represented a condition that was frequently seen. This condition was described twenty-five years ago by Dr. Klotz as dermatitis hemostatica—a condition due primarily to varicose veins with chronic dermatitis developing secondarily. The veins and the superficial capillaries of the derma became dilated and congested. This was followed by exudation of serum so that the derma and epidermis became edematous with a consequent parakeratosis and scaliness. The walls of the blood vessels will show signs of degeneration. While there may be an occasional rupture of a vessel with a free hemorrhage, this was accidental and exceptional. The slight appearance of purpura was due to the passage of the red cells through the weakened vessel walls. The red puncta were due to the dilated vessels and the pigmentation was the remains of the red cells which passed from the vessels into the surrounding tissues. In reply to a question of Dr. Lapowski's, the speaker said the disease was limited to the lower extremities because this was the usual place for varicose veins.

DR. LAPOWSKI said that the term dermatitis hemostatica did not mean anything to him. He asked if Dr. Pollitzer would use this term as an entity. He also asked for the difference, clinically, between this so-called dermatitis hemostatica and purpura.

DR. POLLITZER replied that purpura was a hemorrhage resulting from a rupture of a blood vessel. It was possible, the speaker said, to have red cells in the tissues with consequent pigmentation without an actual break in the vessel, the erythrocytes passing per diapedesis. But this was not purpura.

LUPUS VULGARIS AND EPITHELIOMA. PRESENTED BY DR. HOWARD FOX

The case had been previously presented before the New York Dermatological Society, Feb. 27, 1917.

DISCUSSION

DR. GOLDENBERG said that he was first under the impression that the condition was lupus erythematosus but on close inspection he had come to the conclusion that it was a case of lupus vulgaris erythematoides—a condition that had been described by Lelvir. There was also secondary epithelioma.

DR. POLLITZER agreed with Dr. Goldenberg's diagnosis of lupus vulgaris erythematoides with epithelioma.

DR. HEIMANN thought that in places the eruption suggested lupus erythematosus. He had examined the tissues removed by Dr. Fox, however, and found a typical tuberculous structure.

TUBERCULOSIS CUTIS VERRUCOSA (?). PRESENTED BY DR. ROTHWELL

The patient, a man aged 26, was from Dr. Trimble's University and Bellevue Clinic. For two years, very gradually increasing in size, located at the inner end of the left eyebrow, there had presented a patch of the size of a silver

quarter, sometimes pustular in character, at other times warty, and at others appearing like granulation tissue. The Wassermann reaction was negative. Moro test, decidedly positive. The pathologic laboratory reported that it was impossible to make a microscopic diagnosis; no blastomycetes were found.

DISCUSSION

DR. LAPOWSKI said that he would have to accept the diagnosis as based on a negative Wassermann and positive Moro test but clinically, he regarded the case as one of syphilis. In the patch there were three annular lesions each separated from the other, which tended to make him consider the possibility of syphilis in spite of the laboratory tests. The speaker did not place much reliance on the Moro test and would demand that the tuberculin be injected and a constitutional reaction looked for. The only positive test that the speaker would accept would be a vigorous antispecific treatment, as the injections of calomel.

DR. POLLITZER considered the case to be one of acquired syphilis. He recommended further laboratory tests and a vigorous therapeutic test—particularly the latter.

DR. WILLIAMS also thought the case was one of syphilis rather than tuberculosis. The lesion was nodular and annular. Furthermore, a Wassermann reaction being negative did not exclude syphilis, because a high percentage of negative Wassermann tests were obtained in late syphilis.

LUPUS VULGARIS. PRESENTED BY DR. ROTHWELL

The patient, a longshoreman, aged 22, was from Dr. Kingsbury's service at the Skin and Cancer Hospital. The family history was negative for tuberculosis. He was one of nine children, all of whom were healthy. The lobe of his left ear was enlarged to the size of a sickle pear, firm to the touch, and imbedded in which were numerous nodules. The Wassermann reaction was negative. The lesions began about two years ago.

DISCUSSION

DR. WILLIAMS objected to the term lupus vulgaris applied to this lesion. It was a large, firm mass without apple-jelly nodules—a lesion that was seen fairly frequently in tuberculosis and he thought that this particular clinical type should receive a separate name.

DR. POLLITZER agreed with Dr. Williams that the case should not be called lupus vulgaris but of course it was a tuberculosis of the skin.

DR. HOWARD FOX thought the term lupus vulgaris tumidus would be suitable for this case.

DR. GOLDENBERG agreed with Dr. Fox.

LUPUS VULGARIS (?). PRESENTED BY DR. LAPOWSKI

This patient was presented before the last meeting of the Section as one of lupus vulgaris. Since then the patient has been given calomel injections and there had been a marked improvement in the lesions.

DISCUSSION

DR. GOLDENBERG said that he did not wish to provoke a lengthy discussion regarding the relative value of salvarsan and calomel, but he would like to have Dr. Lapowski tell briefly why he excluded salvarsan and considered only calomel of value as a therapeutic test.

DR. PAROUNAGIAN said that he had made a diagnosis of nodular syphilid at the previous meeting and he was glad to see his former diagnosis verified.

DR. SATENSTEIN asked permission to say a few words relative to the use of mercury in other diseases than syphilis. In the City Hospital, a number of

years ago, large doses of mercury were given to five cases of leprosy. The eruptions, in places, involuted. The fact that the lesions responded did not mean that they were syphilitic.

DR. LAPOWSKI said that the reason he placed more value on calomel than on salvarsan was because he had had little experience with the latter in lupus cases, and a great deal of experience with the former. If all the lesions in an eruption disappeared under the influence of calomel, the case was one of syphilis, but if some of the lesions disappeared and others remained, then it was not a case of syphilis.

CASE FOR DIAGNOSIS. PRESENTED BY DR. BECHET FOR DR. TRIMBLE

The patient, a male adult, was a fireman by occupation. Seven years ago he had a lesion on the penis which was followed by pharyngitis and alopecia, for which he received no treatment at all. He then remained free from symptoms until three months previously, when he injured his left index finger, which never healed but became progressively worse. Three weeks after injuring his finger, the ship on which he worked had been loaded with hides. One month later furuncle-like lesions appeared on the face, scalp, arms and legs. These lesions contained a very fluid pus, and eventually broke down, forming rounded, clean-cut ulcers. One injection of an unknown quantity of salvarsan, and seven or eight bottles of mixed treatment effected no change in the lesions. When first seen he had a large ulcer on his left index finger, covered with unhealthy granulations, and surrounded with a well-defined border. On the arms, face and legs, were several sharply-marginated, deep ulcers, with here and there a lesion filled with pus. A first Wassermann test was ++++, a second test taken three days later gave + reaction, probably a laboratory mistake. Smears and cultures gave negative results. Since one month there had been much improvement, the finger being greatly improved, yet nothing had been used but boric acid applications. The case bore some resemblance, when first seen, to sporotrichosis, but the negative pathologic results excluded such a diagnosis. The lesions were probably syphilitic, and were either aggravated or caused by traumatism. Several cases had recently been reported by French military surgeons, of the appearance of syphilitic lesions at the site of injuries, and this case might belong to that category.

DISCUSSION

DR. WISE thought the patient had syphilis and that the lesions which he presented were the result of the disease, combined with local injuries.

DR. PISKO agreed with the diagnosis.

LEUKOPLAKIA OF BUCCAL CAVITY AND TONGUE. PRESENTED BY DRS. MACKEE AND ROSEN

W. T., negro, married, aged 57, from Dr. Fordyce's clinic, denied infection with syphilis and had always been in good health. He was the father of two apparently healthy children; his wife had had two miscarriages. The duration of his trouble was two years. The mucosa of the tongue, especially its dorsal surface, presented a uniform, somewhat roughened, grayish-white coating. On the buccal mucosa the color was pearly-gray, the surface smooth and glistening. Subjective symptoms were trifling. A subsequent Wassermann test proved ++++.

DISCUSSION

DR. HOWARD FOX spoke of a case of leukoplakia in a mulattress that he had recently seen at the Harlem Hospital. In his studies of skin diseases in the negro, he had found leukoplakia to be very rare in the colored race and it was well known that the disease was uncommon in women. The combination, therefore, of leukoplakia occurring in a colored woman, he thought, was worthy of comment.

TUBERCULOSIS VERRUCOSA. Presented by Dr. Williams

H. D., man, aged 38, born in Ireland, driver by occupation. General health was good, no history of cough. About three years ago he noticed a crack under the middle toe of the left foot, and a few months later noticed redness and swelling on the back of this toe. In November, 1914, a papule appeared on the dorsal surface of the first right metacarpal joint, and this gradually developed into a warty lesion. The dorsal surface of the right index finger had been involved for about a year.

The whole dorsum of the middle toe of the left foot was covered with a warty growth which when first seen a few days before presentation, was almost black in color, and quite hard. There was no pus visible. The growth extended on to the plantar surface of the toe and about half an inch on to the plantar surface of the foot itself. In the fold under the toe the skin was cracked. On the radial aspect of the right wrist there was a warty growth extending from the middle of the metacarpal bone, about 3 inches upward. This growth was about an inch wide, with an extension about three-quarters of an inch by an inch and a half over the anterior surface of the wrist. Another warty growth involved about half of the dorsal surface of the right index finger. The growths were all warty, raised, dry, firm, with a hard surface, and deep cracks between the papillae. There was little or no exudation. Each was surrounded by a red zone about a quarter of an inch wide. Two weeks previous to the time of presentation, there had been redness, pain and swelling extending up the right forearm, but this had subsided under wet dressings.

LUPUS ERYTHEMATOSUS OF THE LOWER LIP. Presented by Dr. Bechet

A man, aged 32, from the service of Dr. Trimble, had had an eruption on the lower lip for four years. His general health had been very good. Of two Wassermann tests, one was weakly positive, the other negative. Six injections of salicylate of mercury, 2 grains each, and one month of oral treatment had had no effect on the lesion. The patient presented for examination a sharply-marginated lesion involving most of the lower lip, with a tendency to form a border at certain parts of its periphery. There was some scaling and atrophic changes in its center, but no ulceration. The rest of the skin surface was apparently free.

DISCUSSION

Dr. Williams said that he wished to call attention to the fact that there was very little involvement of the vermilion border of the lip—most of the disease was in the skin. There was a serpiginous lesion composed of central atrophy with a distinct elevated, pearly border. The speaker would consider the possibility of a superficial serpiginous epithelioma.

Dr. Lapowski said that inasmuch as the man spoke only Polish, he was able to obtain a better history than had been given. The lesion developed as a tiny nodule which, after increasing in size, completely disappeared. Later it reappeared, spread a little and then disappeared again. In the course of a few years the lesion healed and reappeared a number of times, each time being a little larger. On account of the scarring and this history the speaker suggested a diagnosis of syphilis. He stated that one should make a diagnosis clinically, regardless of laboratory findings and that he saw evidences of syphilis in this lesion.

Dr. Parounagian recalled a case of lupus erythematosus of the lip which was the exact counterpart of that presented by Dr. Bechet. Vigorous antisyphilitic treatment in this case was of no benefit whatever.

Dr. Wise agreed with the diagnosis of lupus erythematosus, and stated that to his eyes, the lesion was quite characteristic of that condition.

DR. BECHET said that he first thought the diagnosis was syphilis, but as antisyphilitic treatment had been of no avail, he had changed his opinion and considered the lesion to be lupus erythematosus. The speaker said that the lesion began four years previously; in that time, were it epithelioma, ulcerative changes and the border would be much more marked. The vermilion border of the lip was involved.

PITYRIASIS ROSEA INVOLVING THE FACE. PRESENTED BY DR. HOWARD FOX

The patient, J. G., was a man aged 29, married, born in the United States, an electrician by occupation. Five days previous to presentation he had noticed a reddish spot, the size of a nickel, in the lower quadrant of the abdomen. At the same time he noticed a small number of punctate spots scattered about the trunk. During the next two days a profuse eruption appeared over the greater part of the body, extending on the extremities to the wrists and ankles. It was also present in profuse amount on the neck and in a less marked degree on the cheeks and forehead. There were lesions also on the shaft of the penis. The eruption consisted of slightly scaling, reddish, rounded and fusiform macules and large numbers of punctate lesions. A number of punctate excoriations, chiefly on the extensor surface of the thighs, showed that the eruption was certainly pruritic. The amount of itching was sufficient to rule out a syphilid, a fact that was confirmed by the lack of other symptoms of syphilis. The Wassermann reaction was negative. Some of the larger macules were surrounded by satellite punctate lesions in a manner to suggest the corymbiform syphilid.

DISCUSSION

DR. LAPOWSKI said that on account of lesions being present on the scalp, neck and axillae, and the fact that there were no medallion lesions anywhere, and also on account of the numerous pinhead-sized macules and papules, he would favor a diagnosis of seborrheic eczema.

DR. HOWARD FOX thought the point of greatest interest was the presence of so many lesions on the face. There would be no doubt that the disease occurred on the face, although it was true that this seldom occurred. A syphilid was suggested by the occurrence of lesions on the forehead and by the corymbiform arrangement of many lesions on the trunk. This diagnosis, he felt, could be definitely ruled out. The history of an initial patch and the pruritic nature of the eruption, were strongly in favor of pityriasis rosea. The speaker agreed with his father that we should have a broader conception of pityriasis rosea. The disease might present three types of lesions; circinate lesions, solid macules and small puncta. All of these lesions could be present in the same case. In the eruption presented in this case there were numerous macules and puncta but no circinate lesions.

LICHEN PLANUS FOLLOWED BY MARKED PIGMENTATION. PRESENTED BY DR. LAPOWSKI

The patient presented a marked reticulated pigmentation of the legs following the disappearance of lichen planus lesions. The pigmentation was not due to treatment as none had been given.

DR. HEIMANN said that he did not share in the astonishment of Dr. Lapowski over the pigmentary remains of former lesions. It was not uncommon, the speaker said, for lichen planus to leave pigmentation just as did syphilis. It was even possible to make a diagnosis of former lichen planus on these pigmentary remains.

DR. LAPOWSKI said that pigmentation in lichen planus in such a marked degree as in this patient usually occurred when the patient had been treated very actively with arsenic. If mercury instead of arsenic was given, very slight pigmentation followed involution of the lesions. In untreated cases the

speaker said he would challenge any one to make a diagnosis from the pigmentation alone, as shown in this case.

DR. SATENSTEIN said that he had made a number of biopsies in cases of lichen planus after involution. He had found that there was no real pigment remaining after the disappearance of the lesions but that the apparent pigmentation was due to a marked thickening of the kerato-hyaline layer.

DR. HEIMANN said that he had never seen a case of involuting lichen planus that did not show chromatophores and pigmentation in the tissue and the clinical picture here presented was almost always found after lichen planus.

ECZEMA AFTER ROENTGEN-RAY TREATMENT. PRESENTED BY DR. HOWARD FOX

The patient, Etta F., had been previously presented for a peculiar type of eczema that had appeared every winter since childhood and remained localized about the mouth and lips. She was presented to show the ease with which such lesions could be removed by the roentgen ray. Although the lesions invariably disappeared spontaneously in the summer, the eruption had remained every winter in spite of persistent treatment by various salves and lotions. She was given fractional doses of roentgen ray at weekly intervals (¼ H. unit at skin distance). At the end of a month (after three treatments had been given) the eruption had entirely disappeared, except for a faint scaling close to the vermilion border. Later there was a slight relapse and she had been given four more treatments and when presented, showed absolutely no signs whatever of eczema.

LICHEN PLANUS HYPERTROPHICUS. PRESENTED BY DR. ROTHWELL

The patient, a woman, aged 43, was from Dr. Trimble's University and Bellevue Clinic. On the hands, forearms and legs, there were numerous hypertrophic lichen planus papules. In addition, there were a large number of ordinary lichen planus papules. The feature of the case was the fact that the hypertrophic lesions preceded, by several months, the appearance of the papules of ordinary lichen planus. The patient gave a positive Wassermann reaction and was under treatment for syphilis.

LEUKODERMA SYPHILITICUM. PRESENTED BY DR. LAPOWSKI

The patient, a young woman, was the fourth of ten children. Two of the older children had died of unknown causes. Two of the younger children died and there was one miscarriage. The Wassermann reaction was negative. The patient had been married twelve years and had two healthy children. The duration of the eruption was four months. There was a mottled pigmentation over the neck and shoulders.

DISCUSSION

DR. WILLIAMS said that he would not dare base a diagnosis of syphilis on the mottled pigmentation of the neck in this case, with no corroborative symptoms. He suggested a diagnosis of chloasma.

DR. LAPOWSKI said that chloasma did not appear in the mottled form on the neck.

DR. PAROUNAGIAN agreed with the diagnosis on account of the location and the characteristic appearance; as to the negative Wassermann, he suggested that a provocative dose of salvarsan be given and to have two or three different serologists make the examination. He remarked that it would be very interesting if this condition could be found in a nonsyphilitic subject.

DR. HEIMANN said that he thought there was too much hyperpigmentation and also too little depigmentation to be sure of the diagnosis of syphilitic leukoderma. One would have to consider the possibility of adrenal disturbance,

chloasma, and other affections. If the case were one of syphilis, the speaker was of the opinion that the disease was of one or two years duration and he would expect to obtain a positive Wassermann reaction.

DR. LAPOWSKI said that the history of the patient was negative, also Wassermann reaction was negative, but that both the mother and father had syphilis. This was the only fact that he could ascertain that would tend to substantiate his diagnosis of syphilis.

GUMMA OF LIP AND BUCCAL MUCOSA. PRESENTED BY DRS. MACKEE AND WISE

M. T., female, single, aged 37, from Dr. Fordyce's clinic, denied all venereal history. Since the past one and one-half years she had been troubled by a number of small ulcerations affecting the buccal mucosa of the left side, extending from the left corner of the mouth, backward to the molar teeth. Since the past six months the process had extended to the vermilion of the lip and to the skin of the upper lip, on the left side of the mouth. The mucosa presented a somewhat circumscribed group of deeply punched-out ulcers, their orifices large enough to admit the head of a match. On the skin of the lip, adjoining the vermilion, was a raised, hazel-nut sized tumor, with an ulcerating, scabbed center. The patient was presented chiefly on account of the simulation of her lesions in the buccal cavity, to tuberculosis ulcerosa. The Wassermann test, taken subsequently, was ++++.

DISCUSSION

DR. HOWARD FOX said he could not make a clinical diagnosis but thought that tuberculosis should be considered.

DR. LAPOWSKI said that such a lesion would have to be studied and that a diagnosis could not be made on one observation.

DR. PAROUNAGIAN regarded the lesion as a syphilitic gumma.

DR. MACKEE said that the reason he thought it was a gumma was on account of the very marked area of infiltration at the commissure. In this area there were three or four crateriform or punched-out ulcers. The lesion involved the mucous membrane of the cheek as far back as the molar region and was distinctly verrucous. Both tuberculosis and syphilis could produce a lesion of this kind in this location. The duration was rather long for syphilis but the speaker had seen cases in which there was a buccal lesion of this type of one and two years' duration.

PAPULO-NECROTIC TUBERCULID. PRESENTED BY DR. HOWARD FOX

This case was previously presented (see THE JOURNAL, 1911, Vol. 29, p. 552).

LUPUS ERYTHEMATOSUS DISSEMINATUS. PRESENTED BY DR. BERGER FOR DR. POLLITZER

A. H., aged 55, a Russian, had been in America seventeen years. The affection began four months ago, on the face, as a small discoid lesion. Other lesions soon developed and many coalesced. When the patient was presented before the Section, the face, scalp and ears showed typical lesions of lupus erythematosus. Of especial interest were the purplish, flat, annular lesions on the palmar aspects of the fingers and on the palm of the right hand.

CASE FOR DIAGNOSIS (INFILTRATED PATCH ON CHIN). PRESENTED BY DRS. HOWARD FOX AND OCHS

The patient, C. N., was a woman, aged 66, who was born in England. For the past five months she had presented a bluish red infiltration of the chin. It was fairly sharply circumscribed, dry and devoid of scaling. The Wassermann reaction was negative.

REPORT OF A CASE OF EXTENSIVE TUBERCULOSIS. By Dr. Howard Fox

Dr. Fox desired to report on a case of extensive tuberculosis that he had presented at a previous meeting. The lesions were ulcerating and deep-seated and were situated on the backs of the arms, buttocks and on the posterior aspects of the thighs and legs. The speaker said that he had presented the case as one of tuberculosis and that most of the members had agreed with the diagnosis but that Dr. Lapowski had considered the case to be one of syphilis. The speaker said that the patient had evidence of pulmonary tuberculosis and showed no grouping of the cutaneous lesions as would be found in syphilis. Dr. Heimann had made a biopsy and had found a tuberculous structure.

Dr. Heimann said that he had studied the lesions histologically and considered them to be tuberculous.

Dr. Lapowski said he would not accept a microscopic diagnosis in such a case, no matter who made the report. He would not accept a diagnosis unless the tubercle bacilli were demonstrated. The speaker regarded the case as one of syphilis and felt that vigorous antisyphilitic treatment would produce the desired result.

Dr. Fox asked Dr. Lapowski for his specific requirements for ruling out the diagnosis of syphilis.

Dr. Lapowski, in answer to Dr. Fox, said that one calomel injection should be given and this should be repeated in ten days. The speaker said that he had had no experience with salvarsan in lupus and that is the reason he never used it as a therapeutic test. He placed his faith entirely in calomel.

Dr. Wise asked Dr. Lapowski what had been the further history of the two cases that the latter had presented at the last meeting. One of the patients exhibited lesions on the face which some of the members considered to have been lupus erythematosus. The other case also had lesions on the face which were accepted as being seborrheic eczema. Dr. Lapowski had presented both patients under the diagnosis of syphilis.

Dr. Lapowski said that the seborrheic eczema case disappeared from observation after receiving a calomel injection. The other patient had received no local treatment except boracic acid ointment and under calomel and potassium iodid, the lesions were disappearing. He said he would try to present the case again.

EPITHELIOMA OF THE HAND. Presented by Dr. Rothwell.

The patient was a man, 57 years old, handling dyes in a wall paper factory. About a year ago he noticed an ordinary "pimple" on the dorsum of his right hand; he opened it with a needle, but nothing came out of it. The lesion persisted and in two months it was about a quarter of an inch in diameter, and appeared to be a "pit" out of which warty growths projected. This condition he treated with acids, and as a result was able to scrape off a cheesy substance. About six weeks ago it reached the size of about half an inch. The lesion had an elevated, soft rim and out of the crater-like opening projected verrucous growths. He had had a genital sore 35 years ago, but no secondaries. The Wassermann reaction was + + +, and two weeks of mixed treatment showed no appreciable change in the appearance of the lesion.

CASE FOR DIAGNOSIS. Presented by Dr. Aitken.

The patient, R. B., was aged 34, an Austrian, and had resided in this country twelve years. The disease began four years ago, with the appearance of small, round tubercles on the anterior and inner surfaces of the left leg, below the knee. Within the past four years lesions appeared in numbers on both legs (below the knees) and arms (below the elbows) in the form of small tumors. These tumors were pea-sized, firm, and immovable in the skin, flattened, ele-

vated and pinkish in color. The patient had radiating pains down the arms and legs, especially at night.

DISCUSSION

DR. AITKEN requested an expression of opinion as to whether the lesions lay in or below the skin, and suggested the diagnosis of dermatoneuroma of the type described by Duhring and Leszinsky.

DR. FOX said that as the lesions were movable they were not neuromas, and since they came and went he thought that they were lesions of erythema nodosum.

DR. AITKEN repeated that the lesions never disappeared.

DR. MACKEE agreed with Dr. Fox and suggested the diagnosis of some persistent form of erythema.

DR. HEIMAN pointed out that if the lesions were persistent the diagnosis of cutaneous myomata must be considered.

DERMATITIS HERPETIFORMIS. PRESENTED BY DR. HEIMANN.

D. M., 42 years old, was an Italian laborer. The eruption began ten months ago and had persisted since then with periods of improvement and fresh exacerbations. It was general from the very beginning. First, small white elevations appeared which soon became vesicular and pustular. There had always been slight itching. No complaint was made of any constitutional disturbance. Just previous to a fresh outbreak of lesions, the patient had suffered from slight malaise. The eruption was general, on the scalp, face, neck, trunk and extremities. It consisted of elevated red patches and papules, vesicopapules, vesicles with celar and turbid contents, and pustules, a few of which were follicular. The lesions were discrete but in places tended to group and also form circinate areas.

DISCUSSION

DR. POLLITZER inquired why the case should be considered dermatitis herpetiformis. He added that the grouping was not characteristic, the disease had not lasted long enough yet to present the characteristic history of remissions, and that it resembled a bullous erythema, but might prove to be dermatitis herpetiformis or even pemphigus.

DR. WISE stated that pemphigus could not be excluded, the nature and appearance of the lesions being indistinguishable from those of early pemphigus.

DR. MACKEE asserted that only after long observation could a diagnosis be reached, and pointed out that bullous lesions in the mouth were against dermatitis herpetiformis and favored pemphigus.

DR. FOX subscribed to these views.

DR. BECHET expressed himself as favoring the diagnosis of dermatitis herpetiformis because the lesions showed a tendency to grouping, and the scratch marks and torn vesicles proved the presence of a severe pruritus. There was also considerable pigmentation and tendency to scarring. The patient stated that he had had several recurrent attacks, with intervals of perfect freedom between attacks. The objective symptoms and the history therefore favored the diagnosis of dermatitis herpetiformis rather than pemphigus.

DR. HEIMANN mentioned that it was trite among experts in dermatology to recall the fact that dermatitis herpetiformis suggested pemphigus, and that in considering either diagnosis one always bore in mind the other. Nor was it possible to predict that the case would not turn out to be pemphigus. But, he pointed out, the lesions itched, were grouped, came in crops and otherwise resembled Duhring's disease. It was a well known fact that this condition was often the precursor of pemphigus vulgaris, but that a diagnosis must rest on objective evidence and this was against pemphigus. Furthermore, a patient with so extensive an eruption, if it were pemphigus, would be very sick, and the evident good health of this patient in itself favored the diagnosis of dermatitis herpetiformis.

SYRINGOCYSTADENOMA. Presented by Dr. Fox.

(Presented before the November, 1916, meeting of the New York Dermatological Society.)

DISCUSSION

Dr. Politzer wished to know whether such lesions in negroes were always so dark.

Dr. MacKee mentioned that he had seen the duplicate of the case presented in a young negress. He had seen improvement in a young white woman under Roentgen-ray therapy. Histologically, the various cases in this group were very similar and most of them probably belonged to the nevus family.

Dr. Pollitzer stated that the term lymphangioma tuberosum multiplex, given by Kaposi, was due to an error in that he had regarded the tubular nests seen microscopically, as lymph vessels. Trichoepithelioma was a different process, the connection with the hair follicles having been established. He regarded trichoepithelioma and syringosystoma as two distinct entities, the former a neoplasm and the latter a nevus.

POLYGLANDULAR SYNDROME. Presented by Dr. Oulmann.

(This case had been presented at the November, 1916, meeting of the Section.)

DISCUSSION

Dr. Fox stated that he saw no change in the condition since the child had had thyroid treatment, and reiterated his belief that the case was one of scleroderma. He stated that Dr. LaFetra, who had seen the child, held this view.

In addition, the following cases were presented:

HAIRY NEVUS. Presented by Dr. Gilmour.

HUTCHINSON'S TEETH. Presented by Dr. Howard Fox.

TUBERCULOSIS OF THE MOUTH. Presented by Dr. Bechet.

MOELLER'S GLOSSITIS. Presented by Dr. Kingsbury.

XANTHOMA TUBEROSUM. Presented by Dr. Parounagian.

LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by Dr. Trimble.

LEUCODERMA WITH UNUSUAL DISTRIBUTION. Presented by Drs. MacKee and Wise.

LUPUS ERYTHEMATOSUS WITH LUPUS PERNIO. Presented by Dr. Heimann.

MANHATTAN DERMATOLOGICAL SOCIETY

Regular Meeting, Feb. 9, 1917

Fred Wise, M.D., *Chairman*

URTICARIA PIGMENTOSA. Presented by Dr. Wallhauser

The patient, a woman aged 28, robust and apparently in good health, presented a macular eruption which had persisted seven years. The lesions were rounded and quite uniformly split pea in size, and inclined to symmetrical distribution. They were disseminated and grouped, and in some locations had coalesced, developing circles and lines. The regions involved included the lower part of the cheeks, the neck, the regions under the breasts, and the extensor

surfaces of the arms, hands and thighs. All other locations were practically free from eruption.

The lesion had developed gradually, involving first one location, then another, during several years. Then it had remained stationary, no new lesions having appeared during the past two years. In the early period they were raised above the skin and were purplish red, gradually resulting in pigmented lesions of various shades, from dark to light brown, with an admixture of yellow in the milder areas. On being irritated by either rubbing or pressure, the spots became elevated and purplish or bluish red, after several hours assuming the brownish appearance as they became flattened. The rapidity of evolution to the quiescent stage depended on the degree of irritation.

In connection with this phenomenon, an interesting feature was described by the patient with reference to a reaction which occurred after the injection of an immunizing dose of diphtheria antitoxin. Shortly after the injection was received, an urticarial efflorescence resulted in all the locations previously involved, and was more pronounced than in any previous exacerbation.

The only subjective symptom consisted of a mild burning sensation, which, however, was not continuous.

DISCUSSION

DR. OCHS said he disagreed with the diagnosis and that the eruption looked like parapsoriasis guttata. It struck him more on account of the scaling and slight infiltration. The lesions were not in regions where they usually had urticaria. He would be inclined to depend on a biopsy to prove the case by microscopic examination.

DR. SATENSTEIN favored the diagnosis of parapsoriasis guttata. He said that urticarial lesions were more apt to occur in the young, whereas parapsoriasis was more apt to occur at the time of life of this patient. As Dr. Gottheil had said, there would otherwise be nothing but a stain. These lesions were elevated and had never disappeared, which was more the history of parapsoriasis. There was more or less scaling which he had not seen in an urticarial lesion.

DR. PAROUNAGIAN said all the cases of urticaria pigmentosa he had seen were more diffuse, being all over the body, and he thought Dr. Rosen's diagnosis a good one. As far as parapsoriasis was concerned, the lesions were too elevated and he could not see much scaling.

DR. WISE said that the lesions, as they appeared under artificial illumination, closely resembled those of parapsoriasis guttata, and that a biopsy would make the differentiation extremely easy, as in urticaria pigmentosa there would be a mast-cell infiltration of the corium.

DR. WALLHAUSER said that the first diagnosis that occurred to him was parapsoriasis guttata. The history of recrudescences, however, in which the lesions changed to purplish wheals at varying intervals, or following mechanical irritation, seemed to establish the diagnosis of urticaria pigmentosa beyond question.

ANGIONEUROTIC EDEMA. PRESENTED BY DR. OCHS

The patient was a small girl, aged 12, who had come to the speaker a few days previously, with a swelling of the lips, wrists and eyelids. This swelling or edema was temporary and disappeared as quickly as it came. The duration of the disease had been three years. Whenever she was exposed to cold she got a very marked infiltration of the angioneurotic type. She told the speaker that if she rubbed her arm with snow she was able to produce the lesion. The condition was much better in summer, almost disappearing, and recurring if the patient was in a draught or if the weather turned cold. Foods had no effect on it. When the patient was presented, there were no lesions, but when she was sent out into the cold, lesions promptly appeared, and were visible to all the members present. There were no prodromal symptoms, such as itching or burning, and no kind of food affected the patient's skin.

DISCUSSION

DR. PAROUNAGIAN agreed with the diagnosis, but understood that most of the angioneurotic edema disturbances were due to some intestinal cause. He did not know that heat or cold could cause a condition of that kind.

DR. WEISS, while not wishing to dilate at this time on the influence of the endocrine system and glandular therapy, would say, that in cases like the present and in other angioneuroses of the skin, physicians had to avail themselves of this rather vague term. Even in urticaria and its congeners, they were not absolutely sure of the cause of the vasomotor disturbance, although the clinical syndrome showed evidences of active hyperemia. But this hyperemia might be caused by alterations in the vessel walls, through circulating toxins. In angioneurotic edema the vasomotor disturbances were reflected from the central nervous system. They knew that the adrenals had developed from the sympathetic nervous system, of which the adrenals were a prototype. Adrenalin influenced the hemoglobin and oxygen content of the blood. An alteration of this influence might cause a sudden and local vasomotor paralysis, increased lymph pressure, transudation and edema. They observed such local edemas frequently. On arising, some people had edemas of the eyelids, and puffiness in the hands and feet, which disappeared in a few hours. This would be indicative of thyroid insufficiency. From these fragmentary statements, a polyglandular disturbance could be gleaned as the cause of these skin affections, a close study of which would amply repay in therapeutic gain. In cases of angioneurotic edema, the speaker would recommend the exhibition of suprarenal extract of the whole gland.

DR. OCHS said this was the first case of its character he had seen, in which the ingestion of food did not cause the condition. Here was an instance brought out by changes in the elements. The mother of the patient had told the speaker that the lips and hands of the patient would swell and when the latter went to bed and got warm, the whole thing would disappear. She could eat cheese or berries, neither of which would bring out the lesions, but if she got in a draught or cold, they came on immediately. When the speaker had seen her at 5 p. m. that evening, both lips were swollen and he had marked a place on her arm. He did not remember seeing an angioneurotic edema in a patient so young.

DR. WISE said it might be of interest to the Society to hear of a case of angioneurotic edema under his care, in which the pharynx became swollen at night, so that the patient frequently had to call in a physician to prevent choking. There was a swelling of the eyelids associated with attacks of asthma and after one small injection of adrenalin, all the symptoms disappeared. This had no effect, however, in preventing recurrences.

LICHEN PLANUS WITH LESIONS ON THE TONGUE AND BUCCAL MUCOSAE. PRESENTED BY DR. PAROUNAGIAN

The patient, a woman, aged 72, born in Russia, came from the Gouverneur Clinic. The duration of her affection was about three months. The skin lesions were confined to the posterior aspects of both thighs, extending from the gluteal folds to the popliteal regions. The lesions were violaceous with shining tops, somewhat scaly and very itchy. The mucous membrane of the mouth presented leukoplakia-like patches and similar lesions were well marked on the dorsum of the tongue.

LUPUS ERYTHEMATOSUS DISSEMINATUS. PRESENTED BY DR. PAROUNAGIAN

The patient, Miss E. L., aged 23, born in the United States, was a stenographer. Her father had died of an unknown cause. The mother was living and in good health.

The patient stated that ever since she could remember she had had a rash on the face and neck, and that she used to be sent home from school for "ringworm." These lesions would remain for weeks and months and disappear and reappear in a different spot. She had been seen about one and one half years previously, with lesions on the chin, the lower eyelid, the neck and the scalp. The condition presented, consisted of a patch on the sternum, back of the neck and chin, and the scalp where the lesions were more advanced. The patches were scaly, reddish and superficial, with irregular outlines and were more or less itchy at times. The hands presented similar lesions, more pronounced on the dorsal aspects of the fingers and slightly on the palmar surfaces.

DISCUSSION

DR. WEISS said he agreed with the diagnosis and regarded it as a case of the superficial type of lupus erythematosus. He said it was almost a classic picture of erythema centrifugum of Unna, which corresponded with that classification.

DR. HOWARD FOX agreed with the diagnosis of lupus erythematosus as it had the characteristic location on the scalp, face and backs of the hands. The lesions on the face were not deep-seated, inlaid plaques, but were of the type that occurred in diffuse patches, sometimes covering the entire face, the patients eventually dying of pulmonary tuberculosis. The erythematous type of eczema would be ruled out, as this disease never formed circinate patches.

DR. OULMANN said he regarded the case as one of lupus erythematosus, starting as seborrhea congestiva.

DR. WISE asked whether this case was not one of that type of lupus erythematosus which Hutchinson had described as chilblain lupus.

LUPUS VULGARIS FOLLICULARIS AND TUBERCULOSIS VERRUCOSA CUTIS. PRESENTED BY DR. ROSEN

The patient, F. J., was a woman, aged 32 and married. She was born in Russia, had two children living and had had no miscarriages. There was no history of tuberculosis or syphilis in the family. About five years previously, small, pea-sized nodules appeared on the alae and tip of the nose. At first there were about a half dozen. For the past year or so, new lesions had appeared and at the time of presentation there were about eighteen or twenty individual nodules, soft and easily penetrated by the point of a toothpick. The color was a brownish red.

About two years ago a verrucous lesion, about the size of a five-cent piece appeared on the index finger of the right hand, between the second and third phalanx. This lesion remained stationary up to the time of presentation. Physical examination of the patient's chest revealed an active pulmonry tuberculosis over the apexes of both lungs. The Wassermann test was negative.

DISCUSSION

DR. SATENSTEIN said he did not see any lupus vulgaris of the nose and was more in favor of acnitis.

DR. OULMANN said he regarded the lesions of the nose as lupus nodules and the lesions on the finger as tuberculosis verrucosa cutis.

DR. HOWARD FOX said he would not have thought of a diagnosis of lupus vulgaris in this case and agreed with Dr. Satenstein that it was probably a case of so-called acnitis.

DR. WISE agreed with Drs. Fox and Satenstein and thought this was not a true lupus vulgaris. These nodules might present a similar histologic structure, though they were not those of lupus vulgaris clinically, but rather acnitis. In true lupus vulgaris there was a formation of a patch with apple-jelly nodules, which were coalescent, with no spaces of clear, unaffected skin between, whereas in acnitis the lesions were disseminated.

DERMATITIS EXFOLIATIVA. PRESENTED BY DR. BECHET

The patient, a man, from the service of Dr. Trimble, noticed a dry, scaly eruption on his back and one month later an attack of herpes zoster occurred. Within a few weeks, the rash rapidly spread and in about two months became generalized, no part of the skin surface escaping. There was considerable keratosis of the palms and soles. He had never had any previous dermatosis. The scaling had always been excessive, but lately had responded to the use of bland ointments.

DISCUSSION

DR. OULMANN thought the cause of this condition had been a seborrheic eczema and that the generalized dermatitis exfoliativa had followed it.

DR. GOTTHEIL said that a general erythrodermia, which this case appeared to be, could hardly be called a dermatitis exfoliativa without the characteristic, large, adherent, paper-like scales being present.

DR. WISE asked if this condition did not come under the general heading of exfoliative erythrodermia. Under the heading of true dermatitis exfoliativa of Wilson, one observed a general reddening of the skin, which might or might not produce marked scaling.

DR. BECHET said this man had had an enormous amount of scaling, the scales being unusually large. The patient had been using a bland ointment and this had modified the scaling to a considerable extent. In answer to Dr. Oulmann, the speaker said that the disease had been very acute and had spread universally over the body in a few weeks. The fact that he had keratosis palmaris and plantaris also spoke against seborrheic eczema.

STEATOMA. PRESENTED BY DR. BECHET

This patient, a man, from the service of Dr. Trimble, stated that the lesions had been present for thirteen years. He presented for examination a large number of sebaceous cysts on the scrotum, several of which were as large as filberts. The orifice of a sebaceous duct could be seen in some of the lesions. From a few of the cysts semifluid sebaceous contents could be expressed on pressure.

ULERYTHEMA SYCOSIFORME. PRESENTED BY DR. SATENSTEIN

The patient was a colored man, whose lesion began one year previously on the left cheek. When he first noticed it, there was a sharply circumscribed, slightly reddened area, about the size of a fifty-cent piece. This slowly increased in size. Three months later, the process began on the right side of the face. At no time were there any vesicles or nodules present. The lesion occupied almost the entire bearded portion of the face and neck, except the chin. The area was slightly infiltrated and there was a scarlike atrophy and whitish areas in the center. There were no depressions and no plugs under the surface of the scales. The patient had been under treatment at various clinics and had a negative Wassermann reaction. He was presented as a case of erythema sycosiforme of the type described by Unna, or the so-called lupoid sycosis. For further study a biopsy had been made, which confirmed the clinical diagnosis.

DISCUSSION

DR. BECHET thought this might probably be the correct diagnosis. He had presented a case at a previous meeting, with similar lesions, and the concensus of opinion at the time was that the condition was ulerythema sycosiforme.

DR. WEISS regarded this case as one of the aberrant type of sycosis, corresponding to what Unna called lupoid sycosis, in which the main symptom was follicular destruction, which was evident here, with a centrifugal development of the lesion and consequent scarring.

DR. ROSEN thought the case did not resemble lupoid sycosis. There were no active lesions present to warrant that diagnosis. The patient presented a

rather circumscribed, boggy scar, but no evidence of a sycosis or lupus erythematosus. The speaker thought the case was one of lupus vulgaris.

DR. OULMANN said he agreed with the diagnosis but had never seen a case in a colored man. He said he had shown a case of lupoid sycosis before the Society. Cases of this type did not always need to have pustules, but could be superficial with an infiltrated skin. There could be superficial scar formation and while the pustules came and went, they did not need to be there all the time.

DR. OCHS said he regarded this case as one of lupus vulgaris.

DR. WISE said he agreed with the exhibitor. His chief reason was that the disease was limited absolutely to the bearded region and did not encroach on the glabrous portion of the skin.

DR. HOWARD FOX thought the microscope would be necessary in this case to make a diagnosis of lupus vulgaris. He did not agree with Dr. Rosen that it was necessary to see distinct follicular pustules in order to make a diagnosis of sycosis, as many such cases revealed simply diffuse crusted patches, resembling an eczema.

DR. SATENSTEIN said the patient had told him that the process came on just as they saw it without any open wounds whatever. At no time were there any vesicles or pustules.

MULTIPLE SCLEROSES OF THE CHIN. PRESENTED BY DR. OULMANN

The patient was a man, aged 28, who had never been sick before. About eight weeks previously, a lesion appeared on the right lower lip and chin, which afterward became raised and hazel nut sized. The man developed enlarged glands on the right side, and one or two weeks later, after shaving, developed two other lesions with a glandular involvement. There was a general adenopathy. On the buttocks the patient had a leukoderma. The speaker regarded the case as one of multiple scleroses. The Wassermann reaction had been ++++.

DISCUSSION

DR. SATENSTEIN said he thought these lesions were initial lesions of different stages. The central one had adenopathy, but those on the right side of the face had not had time for an adenopathy to develop.

DR. HOWARD FOX said that if this patient had had one single lesion instead of four separate ones, followed by glandular involvement, in which there was a ++++ Wassermann reaction, every one would have accepted it without question as an initial lesion. The speaker thought it a very unusual case, but agreed with the diagnosis.

DR. GOTTHEIL said that he had records of a number of cases of multiple specific inoculations. In one instance he had seen not less than thirteen distinct sclerosed lesions, forming a ring completely occupying the sulcus, and evidently due to simultaneous infection of an extensive herpes. In another instance there were seven distinct initial lesions, four of the face and lips and three of the penis. They were of different sizes and ages, as the patient had kept an accurate record of their appearance. This record was in agreement with their size and apparent age. All had appeared within the six weeks of the primary incubation. Other cases again had three and four scleroses of the lips. Multiple syphilitic inoculations were rather rare, it was true, but they occurred with sufficient frequency to deprive the belief that the chancre was usually a single lesion of much of its importance.

DR. OULMANN said these lesions appeared at different times and seemed to have been caused by shaving, one place after another being infected. The patient stated he had not had any intercourse in a long time and no other infection. The right side had been first affected and the lesions were much less swollen at the time of presentation, the speaker said, than they had been in the beginning.

GUMMA OF THE TONGUE. PRESENTED BY DR. OULMANN

The patient was a man, aged 54, who had come to the clinic three weeks previously, showing a diffuse ulcerated tongue. The duration of the lesion had been one and one half years. The Wassermann reaction was ++++. The speaker had not made a biopsy. The patient stated he had had a chancre twenty-four years previously. The lesion was painful but after specific treatment the pain had disappeared. The patient had received so far three mercurial and one salvarsan injection and was shown as a case of multiple gumma of the tongue.

DISCUSSION

DR. GOTTHEIL thought that there was undoubtedly a carcinomatous process present, possibly on the basis of an old gummatous lesion. There was entirely too much destructive action for a single purely gummatous lesion. Nevertheless, the patient should be given a short but intensive mercurial medication before resorting to radical surgical measures. Arsenic in any form should be carefully avoided. It was liable to occasion a sudden and violent extension of the carcinomatous process and shorten the patient's life.

DR. BLEIMAN said this case reminded him of one which had been presented by him some years previously, in which the diagnosis was in doubt, and he entered into the discussion to bring out what was brought up then. In lesions of the tongue physicians were never certain of their diagnosis. The diagnosis had not been made on his own patient, but at a subsequent meeting this patient had shown signs of a typical syphilis, including gumma of the tongue. When first presented there was some question of malignancy. He said that in this case he was much inclined to a diagnosis of malignancy and thought that in a very short time their doubts would be dispelled.

DR. SATENSTEIN said that he had asked the patient to raise his tongue and found that the infiltration ran right into the floor of the mouth, which was seen in infiltrated carcinoma.

DR. BECHET said that the lesion resembled carcinoma more than it did gumma, and he thought that the former diagnosis would eventually prove the correct one.

DR. PAROUNAGIAN thought the case one of carcinoma.

DR. OCHS said one should be very careful in giving salvarsan in such cases if they were malignant, as the drug had a stimulating tendency.

DR. WISE said he thought that a biopsy was justifiable in this case.

DR. PAROUNAGIAN said he did not agree with Dr. Ochs' statement, that it was a bad thing to give salvarsan in these cases. He believed that Dr. Pollitzer had expressed himself to that effect and the matter was discussed at one of the Academy meetings and Dr. Fordyce did not agree with that theory. The speaker had had a number of cases of leukoplakia of the mouth with a syphilitic history and they cleared up beautifully under salvarsan. If this were carcinoma, and it looked very much like it, he did not know but that the man would not have long to live, anyway, and he advised giving salvarsan.

DR. OULMANN said the reason he had made the diagnosis of syphilis, which had been confirmed by the Wassermann finding, was because of the amount of destruction and the manner of the destruction. He had found single regions excavated by multiple gummas. The condition had been present for a year and a half and under a little antisyphilitic treatment there had been a decided improvement. The condition was much worse than when presented and the patient could not swallow or talk. On presentation, he was able to eat and talk and had no pain. While the speaker did not doubt there was a possibility of a supervening epithelioma, he could see no indication for surgical interference as long as he could keep the patient comfortable, and as he was getting rid of the syphilitic symptoms, he was doing enough for the time. He did not see any indication for biopsies, only to verify the possibility of an epithelioma, for otherwise there would be no benefit. He intended to wait for the final result of the antisyphilitic treatment.

Review of Dermatology and Syphilis

Under the direction of Fred Wise, M.D., New York

Assisted by

Clarence A. Baer, M.D., Milwaukee
Wm. H. Baughman, M.D., New York
Paul E. Bechet, M.D., New York
J. S. Eisenstaedt, M.D., Chicago
Charles Goosmann, M.D., Cincinnati
W. H. Guy, M.D., Pittsburgh
Robert C. Jamieson, M.D., Detroit
Frederick T. Lau, M.D., New York
M. F. Lautman, M.D., Hot Springs
Oscar L. Levin, M.D., New York
M. L. Ravitch, M.D., Louisville
Isadore Rosen, M.D., New York
Max Scheer, M.D., New York
Philip F. Shaffner, M.D., Chicago
A. W. Stillians, M.D., Chicago
J. A. Elliott, M.D., Chicago
Harvey P. Towle, M.D., Boston
Vicente Pardo, M.D., Havana, Cuba
C. C. Tomlinson, M.D., Omaha

PRESSE MEDICALE

(*May 24, 1917, No. 29*)

Abstracted by Paul E. Bechet, M.D.

TREATMENT OF VERRUCAE BY CONCENTRATED SUNLIGHT.

E. Vallet, p. 299.

The technic of this method which Vallet found extremely efficacious, consisted of the use of an ordinary dermatologic magnifying glass and strong sunlight. While he recommends any lens with a magnification of at least four diameters, the particular glass used in his experiments was 7 cm. in diameter, with a focus of 9 cm. The rays of the sun are focussed to a small point on various parts of the lesion, the duration of the exposures being three to four seconds. One exposure is sufficient to cause the disappearance of small verrucae, larger ones require two exposures, rarely three.

(*Ibidem, June 7, 1917, No. 32.*)

THE TREATMENT OF PSORIASIS WITH INJECTIONS OF SULPHUR.

Louis Bory, p. 331.

Bory uses the following formula, injected intramuscularly:

Precipitated sulphur	0.2	
Eucalyptol	20	c.c.
Oil of sesame.....	80	c.c.

In a case of generalized psoriasis, with greatly infiltrated scaly plaques, the scales disappeared the third day after the injection, leaving erythematous bases which progressively faded and disappeared. No local treatment was used. He reports favorable results in four other cases, employing 5 c.c. doses injected into the gluteal museles.

(*Ibidem, June 14, 1917, No. 33*)

THE TREATMENT OF BURNS WITH TAFFETA-CHIFFON ASSOCIATED WITH GOMENOLIZED OIL. ALGLAVE, p. 339.

The taffeta-chiffon is prepared by coating the surface of extremely fine tarlatan with linseed oil. The surface of the burn is covered with the gomenolized oil by means of a dropper or spray. The taffeta-chiffon, previously boiled four or five minutes, is placed over it. The taffeta is covered with sterile gauze and a layer of cotton, the whole being held together with a bandage. The dressings are changed after twenty-four hours. Gomenol is a French proprietary preparation. Alglave claims the complete cure, with the use of the above method, of second and third degree burns, in from two to four weeks.

RUSSKIY JURNAL KOZHNIKH I VENERICHESKIKH BOLIEZNEI

(*October, November, December, 1915, 30, Nos. 10, 11, 12*)

Abstracted by M. L. RAVITCH, M.D.

A CASE OF SCLERODERMA AINHUM. PAVLOVSKOI AND KARISHEVOI, p. 129.

This is the case of a young woman, aged 17, admitted to Kirrilovskoi Hospital suffering from peculiar changes in the fingers and toes.

Family and personal history were normal. Urinalysis negative; the blood count showed a slight leukocytosis. The phalanges of both hands and feet were thickened and swollen, some of them bearing sores the size of a dime. Both palms and soles were keratosed, sclerotic plates of different forms and sizes being especially thick on the fingers and toes and at their ends coalescing to form quite remarkable starlike and spiderlike excrescences. Roentgen-ray plates of the fingers and toes showed changes in some of the bones. The patient was unable to do manual labor owing to the condition of her fingers, but her general condition was satisfactory.

Such trophoneurotic conditions as Raynaud's disease, Parkinson's, Morvan's and Mirault-D'Anger's differ quite markedly from the above described condition. Syringomyelia resembles scleroderma ainhum to a certain extent, but vasomotor control and the sense of pain and temperature are lost in the former condition. Zambaco Pasha puts scleroderma ainhum under the class of lepra mutilans, but the authors do not agree with him, for in lepra mutilans sores and other lepra symptoms are met with. The patient cited in this article enjoyed perfect health except for the local lesions just described. The authors claim that this is the only case of its kind on record in Russia, though Posplev reported a case of "ainhum with scleroderma." Besnier and Barthélèmy think ainhum is a form of scleroderma. Leistikow divides scleroderma into two groups: circumscribed and diffused. Scleroderma ainhum comes under the diffuse type.

As to the etiology of the disease, opinions differ. Various causes have been advanced, but nothing definite has been settled. Since the etiology of this disease is so obscure it is rather difficult to pass on the pathologic changes that have been reported. According to Wolf, the pathologic and anatomic changes in scleroderma ainhum consist in the hypertrophy of the cutis and the subcutaneous tissue. He did not find any cellular or intercellular infiltration. The diffuse form of scleroderma anatomically differs very little from the circumscribed form.

As to the therapy of the disease, the authors acknowledge the ineffectiveness of any remedies; thiosinamin, thyroid extract and other medicinal agents were of no avail.

TREATMENT OF FACIAL ERYSIPELAS WITH METHYLENE BLUE. NOBECOURT, p. 145.

Bogrov, reviewing Nobecourt's article, states that the latter had success with methylene blue in erysipelas of the face. A 5 per cent. aqueous solution of methylene blue applied to the face diminished pain, swelling and exudation. The duration of the infection is also greatly shortened.

TREATMENT OF SCARLATINA WITH SODIUM SALICYLATE. RAMOND, p. 146.

Bogrov quotes Ramond's method of treatment with sodium salicylate. Even the very worst cases were benefited by this treatment. The author begins with 2 to 5 grains, several times a day. No ill results were noticed in any of the cases under this treatment.

TREATMENT OF DERMATO-UROLOGIC DISEASES WITH IODIN VAPOR. OTA, p. 147.

Bogrov reports the results obtained by Ota with iodin vapor. The employment of iodin vapor in surgical cases was advocated in 1910, Logue and Jungengel and afterwards Farnanier and Norman using it in tuberculosis of the bladder. Ota claims he had considerable success with this treatment in lupus vulgaris, scrofuloderma, eczema marginatum and sycosis vulgaris. In tuberculosis of the skin it caused the scabs to fall off and sores to granulate with very little scar formation. Eczema marginatum was cured in one séance, sycosis vulgaris in three treatments. In tuberculous cystitis fifteen séances of this treatment given in three months, effected a complete cure.

PRESERVATION OF THE BACILLUS LEPRAE IN DEAD BODIES. ARNIG, p. 150.

Bogrov quotes Arnig's investigations while in the Sandwich Islands as to the presence of lepra bacilli in the dead and decomposed bodies of lepers. He found the lepra bacilli in bodies that had been interred from two to six months.

ADIPOSIS DOLOROSA OR DERCUM'S DISEASE. KOPITKO AND LARIANOV, p. 151.

According to Bogrov's report, these two authors described a case of Dercum's disease. The patient, a woman, aged 27, had all the symptoms of this disease, including asthenia, partial loss of memory, nervous disturbances, increased deposits of fat in the subcutaneous tissues and other features, such as diminution, alteration and abolition of tactile and temperature senses. There seemed to be a considerable decrease in the secretory activity of the thyroid gland, as in myxedema. That disturbed function of the thyroid gland is an important etiologic factor in adiposis dolorosa was substantiated by the improvement, though not cure, which followed administration of desiccated thyroid gland.

A CASE OF KERATOCONUS OCCURRING IN DIFFUSED SCLERODERMA. NILOSLAVSKAYA, p. 157.

In Niloslavskaya's case, according to Bogrov, keratoconus first appeared in the left eye, later in the right. The patient was suffering from an extensive diffuse scleroderma of the head, hands and lower extremities. The eyelids were also sclerosed. The case had first been diagnosed as Raynaud's disease, but after two and one half years' observation it was found that she was suffering from diffuse scleroderma with the above mentioned phenomena; in addition she had attacks of hysteria. No pathogenesis of her disease could be given.

ESCUELA MEDICO MILITAR

(July, 1917, 1, No. 2)

Abstracted by V. Pardo, M.D.

CUTANEOUS LEISHMANIOSIS IN CHICLET WORKERS. Ernesto Cervera, p. 9.

Cervera presents one case of this disease, due to the parasite known under the name of Leishmania brasiliensis. The patient was a man working in the woods at Yucatan (Mexico), where they obtain the raw gum (chiclet) by primitive methods; he presented an ulceration situated on the helix of the left ear which began as a small nodule several months before. Specimens taken from this ulceration showed the presence of the parasite, a round corpuscle, 3 microns long by 2 microns wide, with an irregular and rather eccentric nucleus and a faintly stained protoplasm.

The author states that the disease is very frequent in Yucatan and Campeche (Mexico) among the people working in the country. There seems to be no relation between the kind of work the patients do and the cutaneous manifestations.

JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE UND UROLOGIE

(April, 1916, 16, No. 4)

Abstracted by M. F. Lautman, M.D.

CONTRIBUTION TO THE HISTOLOGY OF POROKERATOSIS (MIBELLI). Matsumota, p. 293.

The disease in this case involved an area 12.5 by 11.0 cm. in diameter and had existed on the forehead of a 46 year old healthy man for about 20 years. The individual lesions appeared as punctate, comedolike nodules and histologically demonstrated the fact that the hair follicles as well as the openings of the sweat glands were involved.

LEPRA BACTEREMIA. Chojo, p. 308.

MERCURY AND ARSENIC IN THE TREATMENT OF SYPHILIS. Nakano, p. 299.

(Ibidem, June, 1916, 16, No. 6)

EXPERIMENTS WITH A NEW MERCURIAL PREPARATION "IMAMICAL." Ito, Matsuzaki, Mitsuhashi and Kurokawa, p. 479.

Imamical is sulphosalicylic acid-mercury sodium and contains about 27 per cent. of mercury. The authors observed good results from its use in twenty-four cases of syphilis and never encountered any of the unpleasant urinary or alimentary by-effects that are so frequently caused by the bichlorid.

(Ibidem, July, 1916, 16, No. 7)

REPORT ON THE USE OF PITYROL, A NEW DERMATOLOGICAL REMEDY. Matsuura, p. 573.

The author has used pityrol, which is a fatty substance made from rice, in over twenty varieties of skin conditions ranging from folliculitis and all forms of eczema to and including lupus vulgaris and chancroid, and has obtained excellent results from its use in all these conditions.

A FURTHER STUDY OF LAC-DERMATITIS. Toyama and Kayaba, p. 578.

(*Ibidem, August, 1916, 16, No. 8*)

THE ACTION OF COPPERCYANURCYANKALI AND CERTAIN DOUBLE SALTS OF COPPER AND POTASSIUM ON TUBERCLE AND LEPRA BACILLI. SUGAI, p. 641.

CLINICAL OBSERVATIONS ON ARSAMINOL-NATRIUM. A NEW ANTISYPHILITIC. ANDO, p. 674.

(*Ibidem, September, 1916, 16, No. 9*)

EXPERIMENTS WITH JAPANESE SALVARSAN PREPARATIONS. DOHI, NAKANO AND KAMBAYASHI, p. 727.

The authors have conducted extensive experimental and clinical observations on the Japanese salvarsan preparations and have found them equally as potent but distinctly less toxic than the German salvarsan.

HISTOLOGICAL STUDIES OF ACNE AND ITS ETIOLOGY. SAKAGUCHI, p. 797.

This observer has studied biopsies taken from thirty-four cases of acne and concluded that the hyperfunction and altered secretion of the sebaceous glands favored the growth of the acne bacillus which in turn produced an irritation and hyperkeratosis of the ducts of these glands. The obstruction in the duct produces stasis of the secretion with the formation of a seborrheic filament or plug. Secondary infection of this plug (comedo) with staphylococci is necessary for the production of an acne pustule and was regularly found in all the cases.

AMERICAN JOURNAL OF SYPHILIS

(*July, 1917, 1, No. 3*)

Abstracted by W. H. GUY, M.D.

THE TREATMENT OF GENERAL PARESIS. HANSON S. OGILVIE, p. 509.

The results obtained in fifty-five cases of paresis treated intraspinally, using the technic elaborated and previously reported by the author, confirm the prevailing opinion that therapy by the intraspinal route is far superior to any other treatment known today. Broadly considered the disease is only held in abeyance for a period dependent on the extent of its activity at the time treatment is instituted. When the classical syndrome is clinically established we are dealing with atrophic parenchymatous degeneration of brain tissue and comparatively little can reasonably be expected from any therapeutic agent. It is the consentient opinion of authorities generally that invasion of the nervous system occurs prior to or during the secondary stage of the infection and that with early detection, and prompt application of adequate therapeutic measures, general paresis will in far distant years become a comparatively rare picture in medicine.

OBSERVATIONS ON TYPES OF RESPONSE IN TREATMENT OF THE CENTRAL NERVOUS SYSTEM. HOMER F. SWIFT, p. 524.

Syphilis of the central nervous system being classified according to the time of infection, clinical picture and laboratory findings, the response to treatment by the intravenous and intraspinal methods leads the author to conclude that it is of importance to determine what symptoms are due to degeneration and what are due to inflammation or exudation. Lesions due to inflammation or exudation are much improved or eliminated by general treatment of the patient, while those due to degeneration are little if any affected. In early meningitis and those cases

formerly termed tertiary syphilis of the central nervous system, the symptoms are usually due to inflammation or exudation and respond correspondingly well to the general administration of salvarsan, mercury and potassium iodid, only an occasional case of this type requiring intraspinal therapy. Some tabetics respond well to general treatment, others only to the intraspinal or combined method, treatment being continued until the cerebrospinal fluid is normal and remains so, except for slight persistent increased globulin which may be disregarded. In paralytic dementia, while much benefit may be expected in increasing the number and length of remmissions, the hope of ultimate recovery is slight. Patients potentially paretic by virtue of a paretic type gold curve in their spinal fluid should be treated intensively from the first with the expectation of better results than when clinical symptoms of the disease are present. Treatment should be individualized, given in courses, and the condition of the fluid determined at the beginning and end of each course.

COMPLEMENT FIXATION IN SYPHILIS. Loyd Thompson, p. 555.

Wassermann's original technic and its various modifications are detailed and certain pertinent objections offered against them. The author has devised a method which he states is open to none of the objections to which methods already proposed are subjected. Active serum is used, complement in each serum being titrated. Amboceptor is obtained by immunizing rabbits against human cells. The antigen used is the acetone insoluble lipoids of Noguchi and Bronfenbrenner. The corpuscles are human red cells obtained from any convenient source and prepared in the usual manner. The exact technic may be obtained by referring to the original article.

AORTIC ANEURISMS AND DILATATIONS. Paul G. Woolley, p. 582.

The author believes that a relatively high percentage of aneurisms are due to syphilis, especially in cases below 50 years of age. Cases are reported including post-mortem findings to illustrate various aortic dilatation effects of syphilis.

SEROLOGICAL EXAMINATION OF OVER TWO HUNDRED CHILDREN FROM THE OPEN AIR SCHOOLS OF ST. LOUIS. Charles D. Johnson, p. 606.

A group comprising two hundred and twenty-four children presenting clinical symptoms of anemia and malnutrition were examined serologically with the following results: 16.5 per cent. were ++++; 17.4 per cent. were +++; 9.8 per cent. were ++; and 12.5 per cent. were +, the remaining cases being negative. Of cases showing both positive Wassermanns and von Pirquets there were 20.7 per cent., 14 per cent. being negative for both. Positive Wassermanns and negative von Pirquets were found in 27 per cent., and 20 per cent. had positive von Pirquets and negative Wassermanns.

THE VALUE OF COMPLETE EXAMINATION OF THE EAR IN SYPHILIS. Jesse Wright Downey, p. 616.

Twenty-eight cases of syphilis with aural manifestations are reported together with an outline of diagnostic methods for locating the pathologic process, and the author concludes that aural syphilis may occur at any stage of the infection and involve any part of the aural apparatus. Ear symptoms due to syphilis are not necessarily of grave import and particularly in incipient cases the response to proper specific medication is prompt.

THE PRESENTING SYMPTOMS IN THREE HUNDRED CONSECUTIVE CASES OF SYPHILIS. R. H. Lafferty and S. R. Thompson, p. 624.

Three hundred cases of syphilis are reported with a tabulation of the symptoms for which patients sought relief. The paper is presented to show the great variety of ways in which the disease manifests itself.

THE PROVOCATIVE WASSERMANN TEST IN THE CLINICAL DIAGNOSIS OF SYPHILIS. JOHN H. STOKES AND PAUL A. O'LEARY, p. 629.

From a study of one hundred and three cases in which an injection of salvarsan was given to provoke a Wassermann after a negative test, presumptive but not conclusive evidence of the existence of a provocative effect was obtained. The provocative Wassermann seemed to be of little value in the absence of clinical evidence of the disease, and to be inferior both to clinical judgment and the therapeutic test in the recognition of obscure cases. Findings in seventy-two repeated Wassermanns served as a control for the series of cases reported.

CASES OF HYPERTROPHIC CIRRHOSIS OF THE LIVER. PAUL G. WOOLLEY, p. 649.

Three cases of hypertrophic cirrhosis of the liver are reported. Syphilis and alcoholism were possible etiologic factors suggested by the history. In two cases the syphilitic element was demonstrated by necropsy findings.

LUETIN REACTION IN CARDIOVASCULAR-RENAL DISEASES. DUDLEY FULTON AND ROLAND CUMMINGS, p. 663.

Twenty-eight cases, none of which had had potassium iodid for several weeks, were subjected to the luetin reaction, results being controlled by serologic findings. The authors were led to conclude that either the luetin reaction is unreliable or syphilis is not a common etiologic factor in conditions named in the subject of their paper.

A NOTE ON THE TREATMENT OF SYPHILIS WITH GALYL. LOYD THOMPSON, p. 665.

The author reports sixty injections of galyl administered to twenty-eight patients without untoward symptoms and with results equal to those obtained with other arsenicals.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE

(Nov. 1, 1916, 19, No. 21)

Abstracted by R. C. JAMIESON, M.D.

TREATMENT OF FILARIASIS AND ELEPHANTOID CONDITION BY INTRAMUSCULAR INJECTION OF SALVARSAN. J. G. MCNAUGHTON, p. 249.

Three-tenths gm. of salvarsan intramuscularly was used for injections in these cases of elephantiasis with good results in all. The author believes that elephantiasis could be exterminated if all cases reacted as did those in this report.

(Ibidem, April 16, 1917, 20, No. 8)

NOTES ON A CASE OF PELLAGRA. A. VISYALINGAM, p. 85.

Report of a case of pellagra which is published on account of the rarity of the disease in the locality of its occurrence (Taiping, Malay States).

(Ibidem, May 5, 1917, 21, No. 10)

THREE CASES OF VENEREAL GRANULOMA TREATED WITH TARTAR EMETIC. C. BONNE, p. 109.

This article is a report from Paramaribo, Surinam, South America, and states the results obtained in three cases of inoperable venereal granuloma by treatment with tartar emetic, intravenously. The technic described is identical with that for

salvarsan, a solution of tartar emetic being used, 1 mg. to 1 c.c. of saline, injections being given twice a week starting with 60 mg. and increasing to 150 mg. Pain soon disappears and healthy granulations soon begin to replace the ulceration. Slight coughing and occasionally a rise in temperature occur after injections. It is not known yet whether relapses will occur or not after this treatment.

ANNALES DE L'INSTITUT PASTEUR

(Febrnary, 1916, 30, No. 2)

Abstracted by R. C. JAMIESON, M.D.

TRANSMISSION OF LEPROSY BY FLIES. E. MARCHOUX, p. 61.

The writer found that the germs are carried on the legs of the flies and are found in the intestines although they do not die there. Infection occurs at the time of close association with the patient as the bacilli which are deposited by the flies quickly dry up and die after leaving the carrier.

(Ibidem, March, 1917, 31, No. 3)

PHYSICOCHEMICAL PROPERTIES OF THE PRODUCTS OF THE ARSENOBENZENE GROUP. J. DANYSZ, p. 114.

This article is summed up in the following conclusions: The compounds are not eliminated except after transformation into soluble compounds in neutral mediums, and not precipitable by salts after passing from a colloidal state to a state of salts which have no longer affinity for the substance of the organism. This transformation occurs in two reactions—precipitation and dissolution.

Formation of the precipitate can cause trouble more or less depending on the quantity of the precipitated substance and the time during which they remain in this form.

Dissolution of the precipitate results from the combination of arsenobenzene with certain organic bases and from their sulfonation, which results in thus forming very stable compounds soluble in neutral mediums and which cannot be precipitated by salts.

The first injection immunizes the organism against the precipitate reaction of the following injections, which indicates that the first injection produces in the organism a continuous formation of soluble products. In certain cases there is inhibition of the function of secretion of soluble products and the organism becomes more sensitive to the second injection.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES

(July, 1917, 154, No. 1)

Abstracted by R. C. JAMIESON, M.D.

SYPHILITIC AORTITIS. A. R. ELLIOTT, p. 14.

This article serves to emphasize the fact of the frequency of syphilis of the aorta especially in latent cases, although progress of the disease is rapid after the valves become affected. Eighty per cent. of cases have a positive Wassermann, the roentgen ray and the Wassermann reaction being the most valuable aids in the diagnosis of aortic conditions.

AMERICAN MEDICINE

(June, 1917, 12, No. 6)

Abstracted by OSCAR L. LEVIN, M.D.

SCLEREMA NEONATORUM; A DESCRIPTIVE CASE. GEORGE DOW SCOTT, p. 451.

The case reported is that of an infant, 6 weeks old, who showed extensive involvement of the buttocks. Resolution occurred under local treatment with goose grease and the internal administration of the syrup of iron.

THE SUCCESSFUL TREATMENT OF SCARLET FEVER. I. L. VAN ZANDT, p. 468.

As a result of sixteen years' experience with the local application and the internal administration of colloidal silver in the treatment of scarlet fever, the writer claims that this preparation is specific for this disease.

For adults, 1 dram of a 15 per cent. unguentum Credé is rubbed into the skin once or twice daily according to the degree of fever. The dose for children is regulated according to the size of the patient. The drug is also given in solution per rectum, 10 to 15 grains, twice daily when the temperature is high, and once daily when fever is absent.

MEDICAL JOURNAL OF AUSTRALIA

(August 11, 1917, 2, No. 6)

Abstracted by OSCAR L. LEVIN, M.D.

OBSERVATION ON THE PATHOLOGY OF BARCOO ROT (VELD SORE), WITH SUGGESTIONS AS TO TREATMENT. C. J. MARTIN, p. 118.

As a result of his observations on twenty cases occurring in Australian soldiers, the author believes that Barcoo rot and veld sore are closely allied, if not identical diseases.

Microscopic examination of infected hairs and cultures from the bases of removed hairs and from the contents of early blebs showed the presence of staphylococci, the Staphylococcus albus predominating.

It seems probable that the disease is caused by the infection of the epidermal structures with staphylococci of low virulence, such as abound on the skin. Under normal conditions the cocci of low virulence are not able to overcome the local defences, but in the case of men too long on a restricted diet, the defense is weakened and they are able to infect the epidermis, but not the true skin.

The author's treatment consists in the removal of the hairs occurring in the lesions and in their vicinity.

EDINBURGH MEDICAL JOURNAL

(June, 1917, 1, No. 6)

Abstracted by OSCAR L. LEVIN, M.D.

DERMATOLOGY IN RELATION TO CHILD WELFARE. NORMAN WALKER AND R. CRANSTON LOW, p. 396.

The writers discuss the necessity for prophylactic measures, to prevent the spread of pediculosis and impetigo, tinea capitis, favus and scabies among children. Norman Walker emphasizes the value of the social worker as an adjunct

to the hospital and dispensary for following up of cured cases, to prevent reinfection and discover unreported cases.

Low suggests the supervision of all pediculosis capitis cases by the public health authorities, the isolation of victims of the disease and the thorough disinfection of the schools.

Both writers claim that much can be done to prevent the spread of pediculosis capitis if all girls wore their hair in pigtails.

UROLOGIC AND CUTANEOUS REVIEW

(July, 1917, 21, No. 7)

Abstracted by OSCAR L. LEVIN, M.D.

THE DERMATOLOGIST AS AN INTERNIST. JOHN L. MURRAY, p. 365.

The writer makes the following conclusions: Etiology is the most important chapter in the study of the skin. The great majority of common skin diseases are due either entirely to internal disorders or the internal condition is a contributory factor. A careful routine examination should be made in every case, and it is advisable to have a printed history and physical examination chart. A copy of the author's chart is appended.

AMERICAN JOURNAL OF ORTHOPEDIC SURGERY

(May, 1917, 15, No. 5)

Abstracted by OSCAR L. LEVIN, M.D.

TABETIC SPINAL ARTHROPATHY (CHARCOT'S SPINE) TREATED BY INTRADURAL INJECTIONS OF MERCURIALIZED SERUM. R. WALLACE BILLINGTON, p. 357.

The patient was given four injections of mercurialized serum, $\frac{1}{40}$ grain of bichlorid at each injection, with improvement in the general symptoms but no apparent checking of the progress of the vertebral disease.

MEDICAL RECORD

(Oct. 6, 1917, 92, No. 14)

Abstracted by C. C. TOMLINSON, M.D.

THE NECESSITY OF FURTHER ADMINISTRATIVE CONTROL OF SCALP DISEASES IN CHILDREN AND ADULTS. WALLACE A. MANHEIMER, p. 587.

The author summarizes the statistics, taken principally from the records of the New York Board of Health, which were taken to show the prevalence of the more common infections of the scalp and face. The following statistics are given to show the need of further administrative control:

Of 266,426 children examined by the New York Board of Health in December, 1910, 59 per cent. had pediculosis, with a resulting loss of school time amounting in one school to 1,830 days out of a total of 6,960 days lost through all causes.

Of the 266,426 examined, 9,052 had impetigo contagiosa and 4,805 had ringworm.

Attention is called to the increase of leprosy in this country as shown by Pollitzer in an article in THE JOURNAL (1916, 34, p. 55) in which he states that there are between 500 and 1,000 unrecognized cases in the United States.

Accepting the figures that there are 10,000,000 syphilitics in the United States, the experience of Montgomery and of Bulkley are quoted, showing that 10 per cent., or 1,000,000, have acquired the disease innocently.

Special attention is called to the transmissibility of infection by the trying on of hats and as a means of preventing infection from this source, a paper skull cap is suggested which would be inexpensive and could be discarded after use.

NEW YORK MEDICAL JOURNAL

(Aug. 11, 1917, 106, No. 6)

Abstracted by C. C. TOMLINSON, M.D.

DIAGNOSTIC TEETH. PERCY WILLARD ROBERTS, p. 256.

The author emphasizes the importance of a routine examination of the teeth as a valuable aid in the diagnosis of obscure lesions due to inherited syphilis.

The following dental anomalies are considered equally as important as the Hutchinson tooth: 1. Cuspal erosions of the first permanent molars. 2. Multiple and systematic dystrophies of the permanent teeth. 3. Multiple dystrophies of the deciduous teeth. In addition to these and considered due to syphilis in at least 80 per cent. of the cases, are the absence of dental units, symmetrical erosions of various kinds, striking irregularities of form and distribution and anomalies of spacing.

In the last condition the author calls special attention to widely spaced upper central incisors and presents several photographs and case histories in illustration. He does not, however, consider this condition pathognomonic of syphilis.

Any of these otherwise trivial dental anomalies may act as a clue to the pathology of an active lesion elsewhere in the body. It is not considered possible for tuberculosis or rickets to produce these various dental anomalies.

(Aug. 18, 1917, 106, No. 7)

A PARAFFIN WAX TREATMENT FOR BURNS. CHARLES AUGUSTUS BEHNEY, p. 312.

As a substitute for ambrine discovered and commercialized by Barthe de Sandfort, Behney, from a study of the requisites for such a preparation, adopted the following formula which he claims has met all requirements:

Paraffin (M. P. 40 C.) 87 per cent., beeswax (yellow) 10 per cent., white resin (turpentine) 3 per cent.

The lesion is first irrigated with sterile water or normal salt solution and dried, a thin layer of wax is then applied with a camel's hair brush or an atomizer, allowing the wax to extend an inch beyond the margins of the lesion. A very thin layer of cotton or gauze is then applied and followed by a second layer of the wax, care being taken to seal down the margins of the dressing to the normal skin.

The advantages claimed for such a dressing are, that it relieves pain, is easily removed, lessens toxic absorption, minimizes the formation of scars, promotes the separation of devitalized tissues and allows the patient to become ambulatory earlier. The dressing should be applied as soon as possible for the first dressing

and used for all subsequent dressings. The best results are obtained by redressing every twenty-four hours.

(*Sept. 1, 1917, 106, No. 9*)

TABES DORSALIS. MORRIS GROSSMAN, p. 402.

The author bases his report on the study of 240 cases of undoubted tabes and summarizes his findings as follows: 1. The average age of syphilitic infection, dated from the primary chancre, was 24.4 years. 2. The average age of the onset of tabes in 238 cases was 39 years. 3. No detectable difference exists in the age of onset of tabes in those patients treated with antisyphilitic remedies and the age of onset in those untreated or presumably less treated. 4. The average pretabetic interval is not greater than 14.6 years. 5 The pretabetic interval in the young may, but seldom does, last for a shorter period than in the more mature. 6. The resistance of the central nervous system seems to deteriorate with age.

(*Sept. 8, 1917, 106, No. 10*)

THE TREATMENT OF PARESIS. BRITTON D. EVANS AND FREDERICK H. THORNE, p. 437.

The authors report twenty-three cases which they treated intraspinally with salvarsan, neosalvarsan and albuminate of mercury.

The smallest number of treatments given to one patient was three, and the largest number, twenty. The Wassermann reaction was temporarily reduced to negative with the blood serum of one patient and with the cerebrospinal fluid of three. Three patients showed some mental and physical improvement, four died during the course of treatment, and six, several months after the treatments were discontinued. Ten are living and are markedly demented. The authors conclude that they have found little or no therapeutic value from intraspinal treatment in paretic dementia.

Book Reviews

THE NATION'S HEALTH. By Sir Malcolm Morris, M.D., K. C. V. O. Member of the British Royal Commission on Venereal Diseases and of the Executive Committee of the National Council for Combating Venereal Diseases; Author of "Diseases of the Skin," etc. (143 pages). New York: *Funk & Wagnalls Company*, 354-360 Fourth Avenue.

Pursuant of the fixed policy of the Royal Commission on Venereal Diseases to "drag it out into the open," Dr. Morris presents The Nation's Health, dealing with the stamping out of venereal diseases. Couched in simple English, the book comprises an outline of the manner of communication of venereal diseases, their effects, individual and economic, suggestions as to their proper treatment and a discussion for and against the various methods used in efforts to control the venereal plague. Boards of health, sanitary and civil authorities, social workers, and interested laymen generally, to whom the book is addressed, will find much of interest and of practical importance to repay them for the hour or two necessary to read it. W. H. G.

CANCER, ITS CAUSE AND TREATMENT. By Duncan L. Bulkley, A.M., M.D.

Senior Physician to the New York Skin and Cancer Hospital, etc. Vol. 1. Paul B. Hoeber Company, New York, 1917 (271 pages).

It requires courage and strong personal convictions to publish revolutionary theories, and from that point of view, credit is due the author of Cancer, Its Cause and Treatment. To label cancer as a derangement of protein metabolism incident to the diet and manner of living in this age of advanced civilization, and as a condition curable in many cases, preventable in all, by correct diet and right living is to present "something startling, something new." However, this is not all theory—a definite plan of treatment is presented and cured cases are reported. In arriving at conclusions, physical and laboratory findings are reported; surgical statistics and mortality tables are analyzed, and the influence of such factors as age, sex, occupation, race, climate and food considered. The book embodies a series of lectures which were given before practicing physicians at the New York Skin and Cancer Hospital during November and December, 1916, and represents opinions largely personal to the author.

Epithelioma of the skin (basal cell) is eliminated from discussion, because it is a local disease, little influenced by constitutional causes or treatment, and because it responds readily to local measures. Gloomy surgical statistics in carcinoma form the basis of a sweeping condemnation of operative measures, passing mention being made of better results obtained by early diagnosis and operation. The reader is left under the impression that cancer is a disease in which surgery is rarely necessary, usually contraindicated, and in which treatment by the author's plan will yield better results than by any other method. W. H. G.

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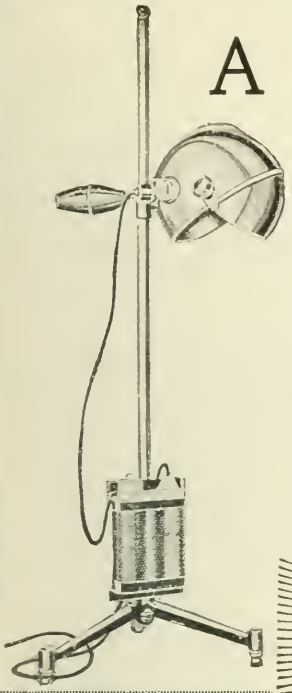

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